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Delaval, Jan

From:

Sent:

Gambel, Phillip Wednesday, December 04, 2002 12:59 PM Delaval, Jan Chan, Christina

To: Cc:

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Subject:

09/754004

jan

plese perform a sequence and a sequence interference search for

ussn 09 / 754004

SEQ ID NO: 1

SEQ ID NO: 2

thanx

phillip gambel art unit 1644 308-3997

Room 8803

1644 mailbox 9e12

or i can pick up when ready. thanx

christina

please okay rush

sorry, i thought i had sequence search done already on this one

thanx

Jan Delaval Reference Librarian Biotechnology & Chemical Library CM1 1E07 – 703-308-4498 jan.delaval@uspto.gov

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: _	1	Examiner # : Serial Number:	Date:
Art Unit:	Phone Number 30	Serial Number:	
Mail Box and Bldg/Room	Location:	Results Format Preferred (circle):	PAPER DISK E-MAIL
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Include the elected species or s	tructures, keywords, synonyn any terms that may have a sp	describe as specifically as possible the subj ns, acronyms, and registry numbers, and co secial meaning. Give examples or relevant ims, and abstract.	ombine with the concept or
Title of Invention:			
Inventors (please provide ful	l names):		
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For Sequence Searches Only lappropriate serial number.	Please include all pertinent info	rmation (parent, child, divisional, or issued pa	tent numbers) along with the
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		jan.delaval@uspto.gov	
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ALIGNMENTS

	RESULT 1
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	tumor necrosis factor alpha precursor [validated] - human
	N;Alternate names: cachectin; TNFA
	C; Species: Homo sapiens (man)
	C;Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 08-Dec-2000
	C; Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646;
	R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica
•	Nucleic Acids Res. 13, 6361-6373, 1985
	A; Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and c
	A; Reference number: A93585; MUID: 86016093; PMID: 2995927
	A;Accession: A93585
	A; Molecule type: DNA
	A; Residues: 1-233 <ned></ned>
_	A;Cross-references: GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26669.1; PID:g37210
nted.	Ritria F. T. M. Bouqueleret I. : Drieur C. Caterina D. : Drimas G. : Derrot V. Ju

Nature Genet. 3, , 137-145, 1993 V.; Ju

A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within A;Reference number: S36152; MUID:93272029; PMID:8499947 A;Accession: S36153

A; Molecule type: DNA A; Residues: 1-233 <IRI> A; Status: nucleic acid sequence not shown; translation not shown

A;Cross-references: EMBL:Z15026; NID:g37211; PIDN:CAA78745.1; PID:g37212 A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992 R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, R; Pennica, D.; Nedwin, G.: Nature 312, 724-729, 1984

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A; Molecule type: mRNA A; Residues: 1-233 <PEN>

A;Cross-references: GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26669.1; PID:g37210
A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promy
R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdell, J.N
Science 228, 149-154, 1985
A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.
A;Reference number: A44189; MUID:85142190; PMID:3856324

A; Accession: A44189

A:Molecule type: mRNA
A;Residues: 1-62, 'S',64-233 <WAN>
A;Residues: 1-62, 'S',64-233 <WAN>
A;Cross-references: GB:M10988; NID:9339737; PIDN:AAA61198.1; PID:9339738
R;Fukuda, S.; Ando, S.; Sanou, O.; Taniai, M.; Fujii, M.; Masaki, N.; Nal
Lymphokine Res. 7, 175-185, 1988 N.; Nakamura, K.I.;

Lymphokine Res. 7, 175-185, 1988
A; Title: Simultaneous production of natural human tumor necrosis factor-alpha, A; Reference number: A61478; MUID:88301617; PMID:2841543

A; Accession: B61478

A;Molecule type: protein
A;Residues: 83-102;109-119;121-128,'X',130-131;142-144,'X',146,'XXX',150-152;159-174;
R;Marmenout, A.; Fransen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashim
Eur. J. Biochem. 152, 515-522, 1985

Molecular cloning and expression of human tumor necrosis factor and comparis

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A;Gene: GDB:TNF; TNFA
A;Cross-references: GDB:120441; OMIM:191160
A;App position: 6p21.3-6p21.3
A;Introns: 6223, 78/1; 94/1
C;Complex: homotrimer
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphoki
F;1-76/Domain: propeptide #status predicted <PRO>
F;77-233/Product: tumor necrosis factor #status experimental <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status experimental
F;81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental
F;145-177/Disuifide bonds: #status experimental
                                                                                              C;Accession: S22052
R;Sanjanwala, M.; Edwards, A submitted to the EMBL Data L A;Description: Baboon Tumor
                                                                                                                                                                                   tumor necrosis factor alpha precursor - C:Species: Papio sp. (baboon) C:Date: 10-Sep-1999 #sequence_revision 1
    A; Molecule type:
                                                              A; Reference number: S22052
A; Accession: S22052
                                  A;Status: preliminary
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A;Title: Human tumor necrosis factor. Production, purification, A;Reference number: A92511; MUID:85130974; PMID:3871770
A;Contents: annotation; disulfide bond
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R;Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.
J. Exp. Med. 176, 1053-1062, 1992
A;Title: Myristyl acylation of the tumor necrosis factor alpha
A;Reference number: A59163; MUID:93018820; PMID:1402651
A;Reference number: A59163; MID:93018820; PMID:1402651
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Immunogenetics 39, 150-154, 1994
A;Title: A polymorphic variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein A; Residues: 77-99 <TAK>
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  A;Introns: 62/3; 78/1; 94/1 C;Superfamily: tumor necros C;Keywords: glycoprotein; 1
                                                                A;Cross-references:
C;Genetics:
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                                                                                                                                                                                                                                                             R.A.;
                                                                                                                                                 preliminary
glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
16; Conserv
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                                                                                                            <MCG>
                necrosis
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R;McGraw, K.A., 5563, 1990

Nucleic Acids Res. 18, 5563, 1990

A;Title: Gene sequence of feline tumor necrosis factor alpha
A;Title: Gene sequence of feline fumor necrosis factor alpha
                                                                                                                                                                                                                                   tumor necrosis factor alpha precursor - cat
C;Species: Felis silvestris catus (domestic cat)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Introns: 62/3; 79/1; 95/1

A;Introns: 62/3; 79/1; 95/1

C;Superfamily: tumor necrosis factor
C;Superfamily: tumor necrosis factor
C;Keywords: cytckine; cytctcxin; glycoprotein; lipoprotein; lymphokine
E;78-234/product: tumor necrosis factor alpha #status predicted <TUM>
E;19,20/Binding site: myristate (Lys) (covalent) #status predicted
E;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
E;146-178/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-234 <SUX>
A; Cross references: GB: M64087;
C; Comment: This protein is an i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Su, X.; Morrīs, D.D.; McGraw, R.A.
Gene 107, 319-321, 1991
A;Title: Cloning and characterization of gene TNF alpha
A;Reference number: JQ1344; MUID:92084125; PMID:1748301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N;Alternate names: cachectin; TNF alpha C;Species: Equus caballus (domestic horse) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Reference number: JQ1344; A; Accession: JQ1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Keywords: glycoprotein; lipoprotein; myristylation; tra
F;19,20/Binding site: myristate (Lys) (covalent) #status
F;81/Binding site: carbohydrate (Ser) (covalent) #status
F;145-177/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Superfamily: tumor necrosis factor C; Keywords: glycoprotein; lipoprotei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tumor necrosis factor alpha precursor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 YSQVLFKGQGCPSTHV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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       EMBL: X54000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL:X62141; NID:g38159; PIDN:CAA44068.1; PID:g38160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; NID:g164244; PIDN:AAA30959. important proximal mediator
NID:g1084; PIDN:CAA37948.1; PID:g295777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
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Pred. No.
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Pred. No. 2.3e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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factor

myristylation;

transmembrane protein

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tumor necrosis factor alpha precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change
C;Accession: $12606; $17290; $18965; 146659
R;Drews, R.T.; Coffee, B.W.; Prestwood, A.K.; McGraw, R.A.
Nucleic Acids Res. 18, 5564, 1990
Nucleic Acids Res. 18, 5564, 1990
A;Title: Gene sequence of porcine tumor necrosis factor alpha.
A;Reference number: $12606; MUID:91016861; PMID:2216741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R:Pauli, v., France Gene 81, 185-191, 1989
Gene 81, 185-191, 1989
A:Title: Porcine tumor necrosis factor alpha: Cloning with Common number: 146659; MUID:90034181; PMID:2478420
                                                                                                                                                                                                                                                                                 C;Superfamily: tumor necrosis factor
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; myri
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-232/Product: tumor necrosis factor alpha #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;144-176/Disulfide bonds: #status predicted
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A;Title: The porcine tumor necrosis factor-encoding genes: sa;Reference number: S17289; MUID:91340150; PMID:1874444
A;Accession: S17290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: EMBL:X54859; NID:g2132; PIDN:CAA38639.1; PID:g2134
A;Note: the authors translated the codon GAG for residue 202 as Gly
R;Choi, C.S.; Molitor, T.W.; Lin, G.F.; Murtaugh, M.P.
submitted to the EMBL Data Library, January 1991
A;Description: Complete nucleotide sequence of a cDNA encoding porcine tumor necrosis A;Reference number: S18965
A;Accession: S18965
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                                                                                                                              QΥ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-232 <CHO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-232 <KUH>
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A; Residues: 1-232 < DRE>
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RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Introns: 62/3; 78/1; 93/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:M29079; NID:g164694; PIDN:AAA31128.1; PID:g164695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 44-232 <PAU>
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                                                                                                                                                                                                                   Local
                                                                                                                                 1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     preliminary; translated from GB/EMBL/DDBJ
                                                                            YSQVLFRGQGCPSTNV 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15; Conserv
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                                                                                                                                                                                                                Similarity
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87.5%;
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                                                                                                                                                                                       2;
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Pred. No. 2.4e-06;
                                                                                                                                                                                    Score 79; DB 1;
Pred. No. 1.1e-05
2; Mismatches
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                                                                                                                                                                                    0;
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A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; tra
F;20/Binding site: myristate (Lys) (covalent) #status pre
F;81/Binding site: carbohydrate (Ser) (covalent) #status
F;145-177/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                    R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
S24642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-
C;Accession: 146047; S24642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Bos primigenius taurus (cattle)
C;Date: 19-May-1995 #sequence_revision 21-Jul-1995 #text_change 04-Feb-2000
C;Accession: S52715
В
                                Qγ
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                                                                                                                                                                                                                                                                     A; Gene:
                                                                                                                                                                                                                                                                                                        A;Cross-references: EMBL:Z14137; NID:g796; PIDN:CAA78511.1; PID:g798
                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-233 <C
                                                                                                                                                                                                                                                                                                                                                                A; Status: preliminary; translated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumor necrosis factor alpha precursor - bovine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-185 <MER>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary
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                                                                          Best Lo
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;33/Binding site: carbohydrate (Ser) (covalent)
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                                                                                                              Query Match
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                                    YSQVLFKGQGCPST 14
YSQVLFRGQGCPST 148
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                                                                          . Similarity
13; Conserv
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92.9%;
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92.9%;
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                                                                        Score 74; DB 1; L
Pred. No. 7.6e-05;
1; Mismatches 0;
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                                                                                                            Length 233;
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                                                                          0
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tumor necrosis factor alpha precursor - goat (fragment) N;Alternate names: cachectin; TNF alpha C;Species: Capra aegagrus hircus (domestic goat) C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #tex

#text_change 31-Jan-2000

S06192 RESULT 8

A; Reference number: S06192 A; Accession: S06192

submitted to the EMBL Data

C; Accession: S06192; S41867 R; Goldstein, I.M.; Henner,

I.M.; Henner,

D.; Library,

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                                                                                                                                                    F;78-234/Product: tumor necrosis factor alpha #status predicted F;20/Binding site: myristate (Lys) (covalent) #status predicted F;82/Binding site: carbohydrate (Ser) (covalent) #status predict F;96/Binding site: carbohydrate (Asn) (covalent) #status predict F;146-178/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:X55966; NID:g1403; PIDN:CAA39437.1; PID:g1404 A;Note: comparison with the introns of homologous sequences suggest the C;Superfamily: tumor necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R:Nash, A.D.; Barcham, G.J.; Brandon, M.R.; Andrews, A.E. Immunol. Cell Biol. 69, 273-283, 1991
A;Title: Molecular cloning, expression and characterization A;Reference number: S48118; MUID:92155784; PMID:1786996
A;Accession: S48118
                                                                                                                                                                                                                                                                                                C; Keywords: alternative splicing; cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Title: Primary structure of ovine tumor necrosis factor alpha cDNA A; Reference number: S13114; MUID:91067496; PMID:2251151 A; Accession: S13114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tumor necrosis factor alpha precursor - sheep N;Alternate names: cachectin; TNF alpha C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 C;Accession: JH0529; S48118; S13114; S20661 R;Green, I.R.; Sargan, D.R.
                                                                                                                                                                                                                                                                            F;1-77/Domain: propeptide #status predicted <PRO>
                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-62,64-234 <YOU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R; Young, A.J.; Hay, J.B.; Ch
Nucleic Acids Res. 18, 6723,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:X56756; NID:g297806; R:Young, A.J.; Hay, J.B.; Chan, J.Y.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Residues: 1-234 < NAS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Status: preliminary
A; Molecule type: mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Title: Sequence of the cDNA encoding ovine tumor necrosis factor-alpha: problems A;Reference number: JH0529; MUID:92112044; PMID:1765267
A;Accession: JH0529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gene 109, 203-210,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 36-38,'S',40-78,'A',80-88,'N',90-114,'Q',116-123,'D',125-144,'G',145-173,'L'
A;Cross references: EMBL:X77317; NID:g452607; PIDN:CAA54523.1; PID:g452608
C;Superfamily: tumor necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-234 <GRE>
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A;Cross-references:
R;Rimstad, E.
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              YSQVLFKGQGCPST
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                                                              Similarity
12; Conserv
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erences: EMBL:X14828; NID:g992; pIDN:CAA32937.1; PID:g993
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85.7%;
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J.00052;
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#text_change 04-Feb-2000
                                                                                                          Length 234;
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A:CLOS ACACHOMORPH B: Jue, D.M.; Zentella, A.; Cerami, A.
R:Sherry, B.; Jue, D.M.; Zentella, A.; Cerami, A.
Biochem. Biophys. Res. Commun. 173, 1072-1078, 1990
A:Title: Characterization of high molecular weight glycosylated
**Deference number: A36696: MUID:91097531; PMID:2268312
                                                                                                                                                                                                                                                                                                   R;Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1986
A;Title: Identification of a common nucleotide sequence in the 3A;Reference number: 159058; MUID:86149365; PMID:2419912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              J. Biol. Chem. 264, 16256-16260, 1989
A;Title: Alternative cleavage of the cachectin/tumor necrosis factor propeptide resul A;Reference number: A34251; MUID:89380231; PMID:2777790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: mRNA
A;Residues: 1-235 <FRA>
A;Cross-references: GB:X02611; NID:g54844; PIDN:CAA26457.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Fransen, L.; Muller, R.; Marmenout Nucleic Acids Res. 13, 4417-4429, 19 A;Title: Molecular cloning of mouse A;Reference number: A23127; MUID:852 A;Accession: A23127
                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-230,'R',232-235 < RES>
                                                                                                                                                                                                                                                                              A; Reference number: A; Accession: I59058
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R;Pennica, D.; Hayflick, J.S.; Bringman, T.S.; Palladino, M.A.; Goeddel, Proc. Natl. Acad. Sci. U.S.A. 82, 6060-6064, 1985
A;Title: Cloning and expression in Escherichia coli of the cDNA for muri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R:Semon, D.; Kawashima, E.; Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A. Nucleic Acids Res. 15, 9083-9084, 1987
A;Title: Nucleotide sequence of the murine TNF locus, including the TNF-alpha-(tumor A; Reference number: A93679; MUID:88067722; PMID:3684584
A; Accession: A27303
A; Molecule type: DNA
A; Residues: 1-235 <SEM>
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C;Species: Mus musculus (house mouse)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 04-Feb-2000
C;Accession: A22908; S03791; A27303; A25164; A23127; A34251; I59058; A36696
R;Shiral, T;Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.
                                                                                                                                       A;Cross-references: GB:M13049; NID:g202082; PIDN:AAA40457.1;
                                                                                                                                                                                                                                           A;Status: preliminary; translated from GB/EMBL/DDBJ
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Bioorg. Khim. 13, 701-705, 1987
A;Title: Molecular cloning of the genes coding for tumor necrosis factors: complete A;Reference number: S03791; MUID:87298639; PMID:3040015
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A; Residues: 1-235 < PEN>
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A;NOte: article in Russian with English abstract
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A; Residues: 1-235 <SHA>
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A; Residues: 1-235 <SI
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ds Res. 13, 4417-4429, 1985
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A;Reference number: A36696; MUID:91097531; A;Accession: A36696

forms of

murine

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A; Molecule type: protein
A; Residues: 80-85, X', 87-99 <SHE>
C:Genetics:
A; Introns: 62/3; 81/1; 97/1
A; Note: the first intron occurs in the 5'-untranslated region
C; Superfamily: tumor necrosis factor
C; Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage;
F; 80-235/Product: tumor necrosis factor #status experimental <NAT>
                                                                                                                                                                                 C/Superfamily: tumor necrosis factor
C/Superfamily: tumor necrosis factor
C/Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine;
F:80-235/Product: tumor necrosis factor #status predicted cyf.80-235/Product: tumor necrosis factor #status predicted
F:90-205/Pinding site: myristate (Lys) (covalent) #status predicted
F:84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F:96/Binding site: carbohydrate (Asn) (covalent) #status predicted
F:148-179/Disulfide bonds: #status predicted
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R; Kwon, J.; Chung, I.Y.; Benveniste, E.N.
Gene 132, 227-236, 1993
A; Title: Cloning and sequence analysis of t
A; Reference number: JN0868; MUID:94040766;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tumor necrosis factor alpha precursor - rat
N;Alternate names: cachectin; TNF alpha
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 04-Feb-2000
C;Accession: JU0029; JN0868; S21674
                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: mRNA
A;Residues: 1-38,'P',40-162,'T',164-201,'S',203-235 <EST>
A;Cross-references: GB:X66539; GB:S40199; NID:g395369; PIDN:CAA47146.1;
C;Comment: Tumor necrosis factor is secreted by macrophages in response
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:L00981; NID:g205253; PIDN:AAA16275.1; PID:g205254 R;EstLer, H.C.; Grewe, M.; Gaussling, R.; Pavlovic, M.; Decker, K. Biol. Chem. Hoppe-Seyler 373, 271-281, 1992 A;Title: Rat tumor necrosis factor-alpha. Transcription in rat Kupffer c A;Reference number: S21674; MUID:92329007; PMID:1627266 A;Accession: S21674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;20/Minding site: myristate (Lys) (covalent) #status predicted F;84/Minding site: carbohydrate (Ser) (covalent) #status predicted F;86/Minding site: carbohydrate (Asn) (covalent) #status predicted F;148-179/Disulfide bonds: #status predicted
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A; Residues: 1-235 < KWO>
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                                            1 YSQVLFKGQGCPS---
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Pred. No. 0.00053;
                                                                                                                      Score 69; DB 2;
Pred. No. 0.00053;
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C:Genetics: 62/3; 80/1; 95/1
A:Introns: 62/3; 80/1; 95/1
C:Superfamily: tumor necrosis factor
C:Superfamily: tumor necrosis; glycoprotein; lipoprotein; lymportics: cytokine; cytotoxin; glycoprotein; lipoprotein; lymportics: cytokine; cytotoxin; gredicted <PRO>
F: 81/Domain: propeptide #status predicted <PRO>
F: 82-234/Product: tumor necrosis factor #status predicted <MAT>
F: 91,20/Binding site: myristate (Lys) (covalent) #status predicted
F: 83/Binding site: carbohydrate (Ser) (covalent) #status predicted
T: 147-178/Disulfide bonds: #status predicted
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R;Crew, M.D.; Filipowsky, M.E.
R;Crew, m.D.; 511353, 1992
                                                                                                                                                                                                                                                                                                                                                                               Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JS0727
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
C;Accession: A25454; A25451; JS0727
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C;Keywords: glycoprotein; lipoprotein; myristylation
F;19,20/Binding site: myristate (Lys) (covalent) #status
F;84/Binding site: carbohydrate (Ser) (covalent) #status
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C;Species: Peromyscus leucopus (white-footed mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_c
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DNA 5, 149-156, 1986
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A; Title: Sequence of the tumor necrosis factor/cachectin
A; Reference number: I54490; MUID:92218012; PMID:1348497
                                                                                                                                                                                                                                                                              A;Status: nucleic acid sequence not shown; translation A;Molecule type: DNA A;Residues: 1-62,'Q',63-234 <SHA> A;Cross-references: GB:M60340; GB:M35326; NID:g165754;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Note: this sequence differs from that shown R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Gene 95, 215-221, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Title: Molecular cloning and expression in Escherichia A; Reference number: A25454; MUID:86219711; PMID:3519137
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A;Molecule type: DNA
A;Residues: 1-235 <RES>
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A; Residues: 1-234 <IT2>
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A; Residues: 1-234 <ITO>
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73.7%;
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M.; Kawahara, S.;
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A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-197 <SHA>
A;Cross-references: GB:X55745; NID:g297167; PIDN:CAA39275.1; PID:g297168
A;Cross-references: GB:X55745; NID:g297167; PIDN:CAA39275.1; PID:g297168
C;Genetics:
A;Introns: 25/3; 61/1
C;Superfamily: tumor necrosis factor
C;Superfamily: tumor necrosis factor
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-197/Product: lymphotoxin #status predicted <MAII>
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A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JH0309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: JH0309; PN0098
                                                                                                                                                                                                                                                                                                                                                                 tumor necrosis factor beta precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: S17289
R;Kuhnert, P; Wuethrich, C.; Peterhans, E.; Pauli, U.
Gene 102 171-178, 1991
A;Title: The porcine tumor necrosis factor-encoding genes: sequence and comparative anal
A;Reference number: S17289; MUID:91340150; PMID:1874444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:M60340; GB:M35326; NID:g165754; PIDN:AAA31483.1; PID:g165755; GB:R;Shakhov, A.N.; Kuprash, D.V.; Turetskaya, R.L.; Azizov, M.M.; Andreyeva, A.V.; Nedospawlol. Biol. (Mosk.) 23, 1743-1750, 1989
A;Title: Cloning and structural analysis of the genes, coding for rabbit tumor necrosis A;Reference number: PN0098; MUID:90220566; PMID:2633043
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A;Residues: 1-204 <KUH>
A;Cross-references: EMBL:X54859; NID:g2132; PIDN:CAA38638.1; PID:g2133
C;Genetics:
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A; Residues: 1-197 <SH2>
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1 delphinapte
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P37671	P10845	Q9fab3	043927	Q9qyh9	055038	095479	Q9xt48	P79374	Q9bea8		206332
escherichia	clostridium	synechocyst	homo sapien	mus musculu	mus musculu	homo sapien	macropus eu	trichosurus	sus scrofa	pseudomonas	rattus norv

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RESULT 2
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Best Local
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Nature
                                                                              MEDLINE-87217060; PubMed-3555974;

Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.

Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,

Filippov S.A., Bystrov N.S., Boldyreva E.F., Chuvpilo S./

Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;

"Tandem arrangement of genes coding for tumor necrosis falpha) and lymphotoxin (TNF-beta) in the human genome.",

Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).
                    Pennica D., Nedwin G.E., Hayflick J.S., S. Palladino M.A., Kohr W.J., Aggarwal B.B., "Human tumour necrosis factor: precursor;
                                                                                                                                                                                                                                                       21-JUL-1986
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15-JUN-2002
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    homology to lymphotoxin.";
Nature [12:724-729(1984).
                                                    MEDLINE=85086244;
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Mammalia; Eutheria;
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EXTRACELLULAR (POTENTIAL).

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BY SIMILARITY.

QR -> PE (IN REF. 2).
QR -> V (IN REF. 2).
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G -> D (IN REF. 2).
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SEQUENCE FROM N.A.
BEDLINE-85137898; PubMed=3883195;
Shirai T., Yamaguchi H., Ito H., To
"Cloning and expression in Escheric
tumour necrosis factor.";
Nature 313:803-806(1985).
[4]
                "Phosphorylation of the 26 k transfected HeLa cells.";
J. Inflamm. 45:152-160(1995)
                                            PubMed=8597870;
Pocsik E., Duda
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Marmenout A., Fransen L., Tavernier J., van
Kawashima E., Shaw A., Johnson M.J., Semon D
Raysschaert M.R., van Vliet A., Fiers W.;
"Molecular cloning and expression of human t
comparison with mouse tumor necrosis factor.
Eur. J. Blochem. 152:515-522(1985).
PHOSPHORYLATION
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Moss M.L., Jin S.-L.C., Milla M.E., Burkhart W., Carter H. Chen W.-J., Clay W.C., Didsbury J.R., Hassler D., Hoffman Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McG Mitchell J., Moyer M., Pahel G., Rocque W., Overton L.K., Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.; "Cloning of a disintegrin metalloproteinase that processes tumour-necrosis factor-alpha.";
                     "High resolution crystal structure of a human tumor necro alpha mutant with low systemic toxicity.";

J. Biol. Chem. 273:2153-2160(1998).

-i- FUNCTION: Cytokine that binds to TNFRSFIA/TNFR1 and TNFRSFIB/TNFBR. It is mainly secreted by macrophages induce cell death of certain tumor cell lines. It is pyrogen causing fever by direct action or by stimulate the content of the content tumor cell content of the content tumor cell times.
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EMBO J. 18:2119-2126(1999).
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MEDLINE-89159409; PubMed-2922050;
Jones E.Y., Stuart D.I., Walker N.P.;
"Structure of tumour necrosis factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-91184128; PubMed-2009860; Ostade X.V., Tavernier J., Prange "Localization of the active site c (hTNF) by mutational analysis.";
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Nature 338:225-228(1989).
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ufogalis B.D., Chaudhri G.;
casein kinase I motif present in
the tumour necrosis factor ligand
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fman C.R.,
McGeehan
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Best Local S
Matches 16
                                                                                                              Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases.

-: FUNCTION: Cytokine that binds to TMPRSFIB/TMPRI and
TMPRSFIB/TMPBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

-: SUBCULULAR LOCATION: Type II membrane protein. Also exists as extracellular soluble form derives from the membrane form by

-: PTM: The soluble form derives from the membrane form by
                                                                                                                                                                                                                                                                                                                                                                               233520;
01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNY-alpha) (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL;
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use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
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01-FEB-1994
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                                                                                                                                                                                                                                                                           Sanjanwala M.,
                                                                                                                                                                                                                                                                                        SEQUENCE
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                                                                                                                                                                                                                                                                                                                              Cercopithecinae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  proliferation and indusure SUBUNIT: Homotrimer.
SUBCELLULAR LOCATION:
EXTRACELLULAR SOLUBLE
                                      similarity).
SIMILARITY:
                                                                                        proteolytic processing (By similarity)
PTM: The membrane form, but not the so
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soluble TNFRSFla/TNFR1
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Best Local :
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4 -
                                                                                                                                                                                                                                                            necrosis factor alpha.";
Gene 107:319-321(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-APR-1993 (Rel. 25, Created)
01-APR-1993 (Rel. 25, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (
ligand superfamily member 2) (Cachectin).
TNF OR TNFSF2 OR TNFA.
                                                                                                                                                                                                                                                                                                                               MEDLINE=92084125; Post X., Morris D.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
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                                                                                                                                                                                                                                                                                                  "Cloning and characterization of gene TNF alpha encoding
                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Equus caballus (Horse)
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ProDom; PD002012; TNF_abc; 1.
SMART; SM00207; TNF; 1.
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InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
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         MIN
                       FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

SUBUNIT: Homotrimer (By similarity).

SUBCELLULAR LOCATION: Type II membrane protein. Also exists extracellular soluble form (By similarity).
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EXTRACELLULAR (POTENTIAL).
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PHOSPHORYLATION (BY CK1) (
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TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
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Best Local S
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DISULFID
Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Cytokine that binds to TMFRSFIA/TNFR and
TMFRSFIB/FWFBR. It is mainly secreted by macrophages
induce cell death of certain tumor cell lines. It is
pyrogen causing fever by direct action or by stimulate
interleukin 1 secretion and is implicated in the indu
cachexia, Under certain conditions it can stimulate c
                                                                                                                                                                                                                                                                                                                15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor Tumor necrosis factor Cachectin).
TNF OR TNFSF2 OR TNFA.
Macaca fascicularis (Crab eating macague) (Cynomolgus monkey).
Eukaryota, Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
                                                                                                                                                             Tatsumi
                                                                                                                                                                                                                                                                          Cercopithecinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SITE
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DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Prodom; PD002012; TNF_abc; SMART; SM00207; TNF; 1. PROSITE; PS00251; TNF_1; 1
                                                                                                                                                                             IISSUE=Lymphocytes;
                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                     NCBI_TaxID=9541;
                                                                                                                                                                                                                                                                                                Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUL-1998 (Rel. 36,
15-JUL-1998 (Rel. 36,
15-JUN-2002 (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (Some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                between the Swiss Institute of Bioinf
the European Bioinformatics Institute.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PR01234; TNECROSISFCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M64087; AAA30959.1; -. PIR; JQ1344; JQ1344.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00229; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP; P01375; 1A8M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            proteolytic processing (By similarity).

PTM: The membrane form, but not the Soluble form, is phosphorylated on serine residues. Dephosphorylated on fthe membrane form ocurrs by binding to soluble TNFRSFIA/TNFR1 (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YSQVLFKGQGCPSTHV 151
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  400207; TNE; 1.
PS00251; TNE_1; 1.
PS00251; TNE_2; 1.
PS50049; TNE_2; TNE_2; 1.
PS50049; TNE_2; TNE_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
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ilarity 100.0%;
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CLEAVAGE (BY ADAM17) (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BY SIMILARITY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 89;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E79ACE91143DF373 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      There are no restrictions ng as its content is in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .3e-08;
s 0;
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MEMBRANE FORM.
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RESULT 6
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Best Local :
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SITE
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InterPro; IPR000478; TNF_family
Pfam; PF00229; TNF; 1.
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                    SEQUENCE FROM N.A. MEDLINE=96003435; PubMed=7561102;
                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; V
Mammalia; Eutheria; Primates; Catarrhini;
Cercopithecinae; Macaca.
                                                                                                                                                                                      ligand superfamily member 2) (Cachectin).
TNF OR TNFSF2 OR TNFA.
                                                                                                                                                                                                                            01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
                                                                                                                                                                                                                                                                                                                                P48094;
                                                                                                                                                                                                                                                                                                                                                    TNFA_MACMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR01234; TNECROSISFCT ProDom; PD002012; TNF_abc; 1. SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AB000513; BAA19131.1; -. HSSP; P01375; 4TSV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             between
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Villinger F.J., Brar S.S.,
                                                                                                                                                                      Macaca mulatta (Rhesus macaque)
                                                                                                                                                                                                                                                                                                                                                                                                                                                              135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proteolytic processing (By similarity).

PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI ()
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBCELLULAR LOCATION: Type II membrane protein. Also exists as extracellular soluble form (By similarity).

PTM: The soluble form derives from the membrane form by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: Type II membr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proliferation and induce cell differentiation.
SUBUNIT: Homotrimer (By similarity).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            YSQVLFKGQGCPSNHV 150
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PS00251; TNF_1: 1.

PS00251; TNF_2: 1.

PS00251; TNF_2: 1.

PS00251; TNF_2: 1.

PS00251; TNF_2: 1.

PS00251; TNF_1: 1.

PS0025
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76
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145
233 AA;
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                                                                                                                                                                                                                                                                                                                                                  STANDARD;
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Mayne A.E.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHOSPHORYLATION (BY CK1) (BY
                                                                                                                              Craniata; Vertebrata; Euteleostomi; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6ABF2C3AB132C217 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                  233
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3.7e-07;
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Chikkala N.,
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D BY GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 233;
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  Ansari A.A.;
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RESULT 7
TNFA_PAPHU
ID TNFA_P
AC 077510
DT 15-DEC
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                                       15-DEC-1998
15-DEC-1998
15-JUN-2002
                                                                                   TNFA_PAPHU O77510;
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SEQUENCE
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SITE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This
 ligand
TNF OR
             15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) ('ligand superfamily member 2) (Cachectin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>:</u>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J. Immunol. 155:3946-3954(1995)
-!- FUNCTION: Cytokine that bin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nonhuman primates."
                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART; SM00207; TNF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U19850; AAA86712.1; -. HSSP; P01375; 4TSV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute.
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                                                                                                                                                                                                                                                                                                                                                                                                                             Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProDom; PD002012; TNF_abc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR01234; TNECROSISFCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00229; TNF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Comparative sequence analysis of cytokine genes from human
                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                       135
                                                                                                                                                                                                                            Local Similarity
nes 15; Conser
                                                                                                                                                                                      1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       proliferation and induce cell differentiation. SUBUNIT: Homotrimer (By similarity). SUBCELLULAR LOCATION: Type II membrane protein. extracellular soluble form (By similarity). PTM: The soluble form derives from the membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           similarity).
DISEASE: CACHEXIA ACCO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction cachexia, Under certain conditions it can stimulate cell proliferation and induce cell difference.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 proteolytic processing (By similarity).

PTM: The membrane form, but notes the phosphorylation of the phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSF1A/TNFR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages induce cell death of certain tumor cell lines. It is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
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                                                                                                                                                                      YSQVLFKGQGCPSNHV 150
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 superfamily
TNFSF2 OR TO
                                                                                                                                                                                                                                                                                                                                                                                                                          PS00251; TNF_1; 1.
PS50049; TNF_2; 1.
Cytotoxin; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           non-profit institutions as long
                                                                                                                                                                                                                                                                                    233 AA;
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                                                                                                                                                                                                                                                                                                            EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY S
PHOSPHORYLATION (BY CK1) (
                                                                                                                                                                                                                                                                                                                                                                  mbrane; Phosphorylation; Signal-anchor.
TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                            Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          There are no restrictions ong as its content is in
                                                                                                                                                                                                                                                        DB 1;
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                                                                                                                                                                                                                                            .7e-07;
                             (Tumor necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Usage
                                                                                                                                                                                                                                                       Length 233;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00251; TNF_1; ...
PROSITE; PS50049; TNF_2; 1.
Prosite; Protoxin; Transmembrane;
TUMOR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               between the Swiss Institute of Bioinformat
the European Bioinformatics Institute. The
use by non-profit institutions as long
modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- FUNCTION: Cytokine that TNFRSF1B/TNFBR. It is mainduce cell death of cer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              alpha.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE=98147379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=36229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cercopithecinae; Papio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Papio hamadryas ursinus (Chacma baboon).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AF019963; AAC31675.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This
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                                                                                                                                                                                                                                   SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SM00207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00229; TNF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSP; P01375;
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                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS;
                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom; PD002012; TNF_abc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000478; TNF_family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP; P01375; 4TSV.
InterPro; IPR003636; TNF_abc
135
                                         1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity).
DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND MALNUTRITION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immunol. 34:1041-1042(1997).
YSQVLFKGQGCPSNHV 150
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                                                                                                       Similarity
                                                                                                                                                                   57
76
2
145
233 AA;
                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA (cDNA)
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H., Schlag G.,
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233
56
                                                                                                                                                                       25658 MW;
                                                                                                       94.4%;
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                                                                                                                                                                                                                                                                                               embrane; Phosphorylation; S
TUMOR NECROSIS FACTOR, ME
TUMOR NECROSIS FACTOR, SC
TUMOR NECROSIS FACTOR, SC
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II ME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        binds to TNFRSF1A/TNFR1 and
                                                                                   0;
                                                                                                                                                                                           EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY)
PHOSPHORYLATION (BY CK1) (BY SIMILAR
BY SIMILARITY.
                                                                                                         Pred. No.
                                                                                                                             Score 84;
                                                                                                                                                                                                                                                                                 (POTENTIAL).
                                                                                                                                                                       B9403255058D4A03 CRC64;
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                                                                                      Mismatches
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                                                                                                         DB 1;
3.7e-07
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                                                                                                                           Length 233
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                                                                                                                                                                                                                                                                                                   MEMBRANE PROTEIN)
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                                                                                                                                                                                                                   SIMILARITY).
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RESULT 8

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TNFA_DELLE
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Best Local Similarity
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MOD_RES
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TNF OR TNFSE2 OR TNFA.

Delphinapterus leucas (Beluga whale).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Cetartidactyla; Cetacea; Odontoceti;
                                                                                                                                                                                                                                                                                                                                                                                      Interpro; IPR003636; TNF_abc.
Interpro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
PRINTS; PR01234; TNECROSISFCT.
PRODOm; PD002012; TNF_abc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        use by non-profit institutions as long modified and this statement is not removed entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8WNR1;
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                                                             SEQUENCE
                                                                                   CARBOHYD
                                                                                                      DISULFID
                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                          CHAIN
                                                                                                                                                                                                                                                                                           Signal-anchor.
                                                                                                                                                                                                                                                                                                              Cytokine;
                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00251; TNF_1; PROSITE; PS50049; TNF_2;
                                                                                                                                                                                                                                                                                                                                                                           SMART; SM00207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF320323; AAL56946.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor-alpha.
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                                                                                                                                                                                                          TRANSMEM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SÜRCELLULAR LOCATION: Type II membrane protein. Also exist extracellular soluble form (By similarity).

PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J Vet. Res. 65:233-240(2001).
FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and TNRRSF1B/TNFBR. It is mainly secreted by macrophages induce cell death of certain tumor cell lines. It is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY
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                                                                                                                                                                                                                                                                                                              Cytotoxin; Transmembrane; Glycoprotein; Phosphorylation;
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                                                                                                      EXTRACELLULAR (POTENTIAL)
CLEAVAGE (BY ADAM17) (BY
PHOSPHORYLATION (BY CK1)
BY SIMILARITY.
                                                                                                                                                                                                          SIGNAL-ANCHOR (TYPE-II
                                                                                                                                                                                                                                                TUMOR NECROSIS FACTOR, MEMBRANE FORM.
                                                                                                                                                                                                                               CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                         (POTENTIAL).
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      DB 1;
5.5e-07;
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                                                                                                                                                SIMILARITY)
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L. Submitted (XXX-1993) to the EMBL/GenBank/DDBJ databases.

C. -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and

TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

C. -!- SUBCLIULAR LOCATION: Type II membrane protein. Also exists as extracellular soluble form (By similarity).

C. -!- PTM: The soluble form derives from the membrane form by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
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                    PRINTS; PR01234; TNECROSISFCT ProDom; PD002012; TNF_abc; 1. SMART; SM00207; TNF; 1.
                                                                                          InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
                                                                                                                                                                                            EMBL; X54000; CAA37948.1;
EMBL; M92061; AAA30818.1;
PIR; S11688; S11688.
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- DISEASE: CACHEXIA ACCOMCANCER AND INTECTION, A AND MALNUTRITION.
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                                                                                                                                                                                                                                                                                                                                              European Bioinformatics Institute. The by non-profit institutions as long ified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
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                                                                                                                                                                                                                                                                                             s requires a license agreement (See http://www.isb-sib.ch/announce) an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Acids Res. 18:5563-5563(1990).
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Dephosphorylation of the soluble TNFRSF1A/TNFR1
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factor alpha.";
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"Molecular cloning and functional characterization of by
dolphin (Tursipps truncatus) tumor necrosis factor alph
Vet. Immunol. Immunopathol. 82:183-192(2001).
-i- FUNCTION: Cytokine that binds to TNPRSTIA, TNFRI and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (
ligand superfamily member 2) (Cachectin).
TNF OR TNFSF2 OR TNFA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tursiops truncatus (Atlantic bottle-nosed dolphin).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odonto
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                                                                                                                                                                                                                                                                                                                                                                             proliferation and induce cell differentiation (F SUBUNIT: Homotrimer (By similarity).
SUBCELLULAR LOCATION: Type II membrane protein.
extracellular soluble form (By similarity).
PTM: The soluble form derives from the membrane
                                                                                                                                                                                              SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY
                                                                                                                                                                                                                                                                                 proteolytic processing (By similarity) PTM: The membrane form, but not the sophosphorylated on serine residues. Depl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell
                                                                                                                                                                                                                                                              membrane form
                                                                                                              SWISS-PROT entry is copyright.
een the Swiss Institute of Bio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  l Similarity
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CLEAVAGE (BY ADAMÍ7) (BY CK1) (CLEAVAGE (BY ADAMÍ7) (BY CK1) (CLEAVAGE (BY CK1) (CLEAVAGE (BY CK1) (CLEAVAGE (BY CK1) (CLEAVAGE 
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Pred. No. 5
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TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
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Best Local
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STRAIN-Large white;
                                                                                                     "The porcine tumor necrosis factor-encoding comparative analysis."; Gene 102:171-178(1991).
                                                                                                                                                       SEQUENCE
TISSUE=Li
                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE=91016861; PubMed=2216741;
Drews R.T., Coffee B.W., Prestwood A.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOD_RES
DISULFID
CARBOHYD
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Jtokine; Cy
Signal-anchor.
"ANIN 78 2:
1 36
                SEQUENCE FROM
                                   Anim. Biotechnol.
                                          "Complete nucleotide sequence necrosis factor-alpha.";
                                                                  Choi C
                                                                        TISSUE-Macrophage;
                                                                                                                                 MEDLINE=91340150; PubMed=1874444; Kuhnert P., Wuethrich C., Peterhans E.,
                                                                                                                                          MEDLINE=91340150;
                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                              Tumor necrosis factor precursor (TNF-alpha) ligand superfamily member 2) (Cachectin). THE OR TRESE2 OR THEA.
                                                                                                                                                                                                                                                                                                                     01-NOV-1991 (Rel. 01-NOV-1991 (Rel.
                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                 Nucleic
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SITE
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ProDom; PD002012; TNF_abc; 1.
SMART; SM00207; TNF; 1.
PROSITE; PS00251; TNF_1; 1.
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ic Acids Res
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P01375; 4
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      TISSUE=Fibroblast;
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TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
(POTENTIAL).
EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
RY SIMILARITY).
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Query Match
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PIR; S12606; S12606
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PIR; S18965; S18965
HSSP; P01375; 4TSV.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Sequence of the swine major histocompatibility complex region containing all non-classical class I genes."; Tissue Antigens 57:55-65(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 44-232 FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chardon P., Rogel-Gaillard C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ū
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Renard C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=21108615; PubMed=11169259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity).
DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF CANCER AND INFECTION, AND IS CHARACTERIZED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 proliferation and induce cell differentiation.

SUBJUNT: Homotrimer (By similarity).

SUBCELLULAR LOCATION: Type II membrane protein. Also exist extracellular soluble form (By similarity).

PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFRI in the soluble to membrane form occurs by binding to soluble TNFRSF1A/TNFRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bloinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way itsed and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           # 81:185-191(1989).

FUNCTION: Cytokine that binds to TNERSFIA/TNER1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        interleukin 1 secretion and is implicated in the incachexia, Under certain conditions it can stimulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AND MALNUTRITION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            induce cell death of certain tumor cell lines. It is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TNFRSF1B/TNFBR. It is mainly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X54001; CAA37949.1; -. X54859; CAA38639.1; -. X57321; CAA40591.1; -. X57321; CAB63852.1;
                                                                                           57
76
2
                                       176
25254
                                                                                    232
77
                                                                                                                                                                                                                                                                                                                                                                                                                     TNF_family.
                                                                                                                                                                                                                                                                                                                                                                                                                                             TNF_abc
                                          WW.
                                                                                                                                                                      mbrane; Phosphorylation; Signal-a
TUMOR NECROSIS FACTOR, MEMBRANE
TUMOR NECROSIS FACTOR, SOLUBLE F
CYTOPLASMIC (POTENTIAL).
                                                                               EXTRACELLULAR (POTENTIAL)
CLEAVAGE (BY ADAM17) (BY
PHOSPHORYLATION (BY CK1)
                                                                 ВΥ
                                                                                                                                                        (POTENTIAL)
                                       65B28F702D99C8BE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cattolico L., Duprat S.,
                                                                 SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 secreted
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BY GENERAL
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                                                                                                                                                                                                                                          Signal-anchor.
MEMBRANE FORM.
                                                                                    (BY
                                                                                                         SIMILARITY)
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mence.";
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Best Local Similarity

88.8%; 87.5%;

Score Pred.

79; No.

DB 1;

PROTEIN)

Gaps

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FORM

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TRESULT REPORT OF THE PROPERTY OF THE PROPERTY
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TNFA_BOVIN STANDAKU;
Q06599; O18779;
Q1-JUN-1994 (Rel. 29, Created)
Q1-JUN-1994 (Rel. 29, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
                                                                                                                                               This
          EMBL; 214137;
                                         or send an
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                                                                                                                                                                                                                                                                                                                                       <del>:</del>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 50-233 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-Boran, and N'Dama;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-94083525; PubMed-8260599;
Cludts I., Cleuter Y., Kettmann R., Burny A., Droogmans L.;
"Cloning and characterization of the tandemly arranged bovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniat
Mammalia; Eutheria; Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BOVIN
                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                               between
                                                                                                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Immunogenetics 42:430-431(1995).
-I- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages induce cell death of certain tumor cell lines. It is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mertens B.E.L.C., Muriuki M., Gaidulis L.; "Cloning of two members of the TNF-superfamily in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=96006582;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Bovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lymphotoxin and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -
                                                                                       European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                                                                                                                                                                                proliferation and induce cell differentiation.
SUBUNIT: Homotrimer (By similarity).
SUBCELLULAR LOCATION: Type II membrane protein. Also
extracellular soluble form (By similarity).
PTM: The soluble form derives from the membrane form
proteolytic processing (By similarity).
PTM: The membrane form, but not the soluble form, is
                                                                                                                                                                                                                                                                                                                                                                                                      pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumor necrosis factor alpha.";
                                                                                                                                                                             SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY
                                                                                                                                                                                                                                 DISEASE:
                                                                                                                                                                                                                                                                phosphorylated on serine residues. membrane form ocurrs by binding to
                                                                                                                                                                                                                                                   similarity)
                                                                                                                                                                                                   DNA
                                                                                                                                                                                                               CANCER AND INFECTION,
                                                                                                                         SWISS-PROT entry is copyright. It is produced through a cen the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YSQVLFRGQGCPSTNV 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TNF-alpha
                                                                                                                                                                                                 MALNUTRITION.
                                                                         and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bovinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5:336-341(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NF-alpha gene.";
(JUL-1997) to t
                                         email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                 CACHEXIA ACCOMPANIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N.A.
        CAA78511.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=7590981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                 AND
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                                                                                                                                                                                                              S A VARIETY OF
CHARACTERIZED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ruminantia;
                                                                                                                                                                                                                                                                Dephosphorylation of the soluble TNFRSF1A/TNFR1 (
                                                                                                       There are no restrictions
                                                                                       as
                                                                       Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     genes.";
                                                                                         its content
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                                                                                                                                                                                                              DISEASES, INCLUDING BY GENERAL ILL HEAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cattle:
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                                                                                                                               collaboration
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local s
Matches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SITE
MOD_RES
DISULFID
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TNFA_MARMO 035734;
MEDLINE=20184748; PubMed=10721723; Li D.H., Havell E.A., Brown C.L., Ct. "Woodchuck lymphotoxin-alpha, -beta structure, characterization and biol Gene 242:295-305(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tumor necrosis factor precursor (TNF-alpha) ligand superfamily member 2) (Cachectin). TNF OR TNFSF2 OR TNFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom; PD002012; TNF_abc; SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF011926; AAB84086.1;
EMBL; AF011927; AAB84087.1;
EMBL; Z48808; CAAB88743.1;
PIR; S24642; S24642.
HSSP; P01375; 4TSV.
                                                                     TISSUE=Peripheral blood; MEDLINE=20184748; PubMec
                                                                                                                                                           TISSUE=Peripheral blood;
Zhou H., Hu J., Seeger C
                                                                                                                                                                                                                                                                                              TISSUE=Peripheral blood;
MEDLINE=98139533; PubMed=9472070;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Polymorphism.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00251; TNF_1; 1. PROSITE; PS50049; TNF_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR01234; TNECROSISFCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00229; TNF;
                                                                                                                                             Submitted
                                                                                                                                                                                               SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                        Marmota
                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Marmota monax (Woodchuck).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000478;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR003636; TNF_abc
                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                Cohrengel B.,
                                                                                                                                                                                                                                                                                                                                                                                                      √ammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last seg
15-JUN-2002 (Rel. 41, Last ann
                                                                                                                                                                                                                                                Molecular cloning and IL-6.";
                                                                                                                                                                                                                                                                                                                                                                  CBI_TaxID=9995;
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                                                                                                                                                                                                                              mmunogenetics
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                                                                                                                                         Hu J., Seeger C.; (AUG-1998) to th
                                                                                                                                                                                                                                                                                                                                                                                                      Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytotoxin;
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                                                                                                                                                                                                                                                                                Lu M.,
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92.9%;
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                                                                                                                                                                                                                                                                                Roggendorf M.;
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Last annotation update)
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Pred. No.
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CLEAVAGE (BY ADAM17) (BY SIMILARITY)

PHOSPHORYLATION (BY CK1) (BY SIMILAR

BY SIMILARITY.

F -> C (IN STRAIN N'DAMA).
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TUMOR NECROSIS FACTOR, SOLUBLE F
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; Sciurognathi; Sciuridae; Sciurinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                   beta and tumor necrosis biological activity.";
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                                                       Cullen J.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQ (IN REF.
                                                                                                                                                                                                                                                                cytokines: TNF-alpha,
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1.9e-05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 233;
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                                       factor genes:
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Best Local
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DISULFID
SEQUENCE
                                     ligand superfamily member 2) (Cachectin). TNF OR TNFSF2 OR TNFA.
                                                                            TNFA_CAVPO STANDARD; PRT; 234 AA. P51435; 01-0CT-1996 (Rel. 34, Created) 01-0CT-1996 (Rel. 34, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Tumor necrosis factor precursor (TNF-alpha) (Tumor Tumor necrosis factor precursor (TNF-alpha)
Cavia porcellus (Guinea pig)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; Y14137; CAA74569.1; -.
EMBL; AF082491; AAC32615.1; -.
EMBL; AF012910; AAF34863.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    between the Swiss Institute of Bioinformatics the European Bioinformatics Institute. There a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
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InterPro; IPR000478; TNF_family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                136
                                                                                                                                                                                                                                                                                                                                                                                                   1 YSQVLFKGQGCPS----TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

SUBCULTURAR INCAPTION: Type II membrane protein. Also exists as extracellular soluble form (By similarity).

PTM: The soluble form derives from the membrane form by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     proteolytic processing (By similarity).

PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSF1A/TNFR1 (i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                similarity).
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                                                                                                                                                                                                                                                                                                                                                YSQVLFKGQGCPSYVLLTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SWISS-PROT entry is copyright. It is produced through a centre the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P06804; 2TNF
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Pred. No.
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CLEAVAGE (BY ADAM17) (BY
PHOSPHORYLATION (BY CK1)
BY SIMILARITY
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SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nbrane; Phosphorylation; Signal-anchor TUMOR NECROSIS FACTOR, MEMBRANE FORM. TUMOR NECROSIS FACTOR, SOLUBLE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     34D3D1965DAAE0E7 CRC64;
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CHARACTERIZED
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-i- SUBCELLULAR LOCATION: Type II membrane protein. Also extracellular soluble form (By similarity).
-i- PTM: The soluble form derives from the membrane form
                                                                                                                                                                                                                                        PRINTS; PR01234; TNECROSISFCT ProDom; PD002012; TNF_abc; 1. SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              White A.M., Yoshimura T., Smith A.W., Westwick J., Watson M.L.; "Airway inflammation induced by recombinant guinea pig tumor ne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=Dunkin-Hartley;
MEDLINE=97462215; PubMed=9316485;
White A.M., Yoshimura T., Smith A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-Hartley; TISSUE-Lung
Yuan H.T., Kelly F.J., Bing
Submitted (NOV-1995) to the
                                                                                                                                                                                                          PROSITE; PS00251; TNF_1; 1. PROSITE; PS50049; TNF_2; 1.
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                                                                                      MOD_RES
                                                                                                                                           TRANSMEM
                                                                                                                                                         DOMAIN
                                                                                                                                                                                                Cytokine;
                                                                                                                                                                                                                                                                                  Pfam; PF00229; TNF;
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InterPro; IPR000478; TNF_family.
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                                                                                                                                                                                                                                                                                                                                                                                or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                           entities requires a
                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute.
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[1]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AND MALNUTRITION.
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      proteolytic processing (By similarity).
PTM: The membrane form, but not the soluble form,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF CANCER AND INFECTION, AND IS CHARACTERIZED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 similarity)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pyrogen causing fever by direct action or by stimulation
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78.9%;
                                                                                                                                                                                                Transmembrane; Phosphorylation; Signal-anchor.
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EMBL/GenBank/DDBJ databases.
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                                                                                   EXTRACELLULAR (POTENTIAL)
CLEAVAGE (BY ADAM17) (BY :
PHOSPHORYLATION (BY CK1)
                                                                                                                                                     TUMOR NECROSIS FACTOR, MEMBRANE TUMOR NECROSIS FACTOR, SOLUBLE F CYTOPLASMIC (POTENTIAL).
                  Pred.
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                                                        7272C940393E7E9B CRC64;
                               73;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             It is produced through
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(See http://www.isb-sib.ch/announce/
2.8e-05;
0;
                               DB 1;
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                              Length 234
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RESULT 15
TNFA_CAPHI
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P13295; Q28320; Q9MYZZ;
01-JAN-1990 (Rel. 13, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
1mor necrosis factor precursor (TMF-alpha) (Tumor ligand superfamily member 2) (Cachectin).
TNF OR TNFSP2 OR TNFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-Splenocyte;
Takakura H., Morl Y., Tatsumi M.;
Takakura H., Morl Y., Tatsumi M.;
"Molecular cloning of caprine TNF-alpha cDNA and its expression
E.coli and insect cells.";
Submitted (JUL-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea Bovidae; Caprinae; Capra. NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YSQVLFKGQGCPSYLLLTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor
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TISSUE=Ovarian follicle; Wang B., Zhang Y.; "Goat ovarian TNF alpha "Goat ovarian TNF alpha cDNA Submitted (JUN-2000) to the H Goldstein I.M., Henner D., Submitted (MAR-1989) to th SEQUENCE OF 44-234 FROM N.A. SEQUENCE OF 41-234 FROM N.A. follicle; to the Talhouk A.; EMBL/GenBank/DDBJ databases EMBL/GenBank/DDBJ sequence."; databases

Submitted (JAN-1994) to the EMBL/GenBank/DDBJ databases.

-I-FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and

-TNFRSF1B/TNFBR. It is mainly secreted by macrophages
induce cell death of certain tumor cell lines. It is Rimstad E TISSUE-Blood; SEQUENCE OF 75-234 FROM N.A. pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction cachexia. Under certain conditions it can stimulate cell and potent can of

Search completed: December 4, Job time: 7.31579 secs

2002, 13:23:01

0

÷ proliferation and induce cell differentiation.
SUBUNIT: Homotrimer (By similarity).
SUBCELULLAR LOCATION: Type II membrane protein. Also exists extracellular soluble form (By similarity).
PM: The soluble form derives from the membrane form by proteolytic processing (By similarity).
PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form of the soluble form of the membrane form of the phosphorylated on serine residues. as an

: membrane form ocurrs by binding to soluble TNFRSF1A/TNFR1 (Ву

Similarity).

DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF CANCER AND INFECTION, AND IS CHARACTERIZED DISEASES,
BY GENERAL GENERAL INCLUDING $_{
m ILL}$ HEALTH

AND MALNUTRITION.
SIMILARITY: BELONGS TO THE CAUTION: Ref.2 sequence dif trameshift in position 60. TIMOR NECROSIS FACTOR FAMILY.

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities send an email to license@isb-sib.ch). requires a license agreement (See http://www.isb-sib.ch/announce/

EMBL; D86587; BAA13130.1;

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Best Local S
Matches 12
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CONFLICT
CONFLICT
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PROSITE; PS00251; TNE_1; 1.

PROSITE; PS50049; TNE_2; 1.

PROSITE: PS50049; Transmembrane;
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DOMAIN
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                                                               SEQUENCE
                                                                                                                                              DISULFID
                                                                                                                                                                                                                                                           Pfam; PF00229; TNF;
                                                                                                                                                                                                                                                                  InterPro; IPR003636; TNF_abc
InterPro; IPR000478; TNF_fam
                                                                                                                                                                                      TRANSMEM
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136
               1 YSQVLFKGQGCPST
YSQVLFRGHGCPST
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                               l Similarity
12; Conserv
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                                                               234 AA;
                               Conservative
                                                                                                                                                                                      36
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79
178
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234
56
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149
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                                      77.5%;
85.7%;
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                                                                                                                                                                                   nbrane; Phosphorylation; Signal-anchor.
TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                      Score 69; D
Pred. No. 0.
                                                                                                                                             CLEAVAGE (BY ADAM17)
BY SIMILARITY.
                                                                                                                                                             EXTRACELLULAR (POTENTIAL). PHOSPHORYLATION (BY CK1) (
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                                                               9768E33BBBABB041 CRC64;
                               Mismatches
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0.00014;
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       GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                       671580 segs, 206047115 residues

    protein search, using sw model

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Gapop 10.0 , Gapext 0.5
                                                                                                                       1 YSQVLFKGQGCPSTHV 16
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Maximum DB seq length: 2000000000
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89
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Perfect score:
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                                             OM protein
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sp_invertebrate:*
sp_mammal:*
sp_mhc:*
sp_mhc:* sp_vertebrate:*
sp_unclassified:* sp_rvirus:*
sp_bacteriap:* sp_archea:*
sp_bacteria:*
sp_fungi:*
sp_human:* sp_archeap:* sp_rodent:* sp_plant:* sp_virus:* sp_phage: * 77... 1111... 112... 115...

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SPTREMBL_21:*

Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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SUMMARIES	Ç.		Q95LE8	097543	043647	Q9BEE8	O9UIV3	Q9TTJ3	Q9BEG0	Q9BEG1	Q95N81	Q9TTG7	097538	Q9TTG8	Q9BEF4	027978	Q9BEC4	070332
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69 77.5 235 669 77.5 235 669 77.5 235 664 75.3 216 664 71.9 217 664 71.9 217 667 75.3 216 75.4 75.2 8 60.4 75.2 8	PRELIMINARY; (TrEMBLrel. (Trem	tch 100. al Similarity 100. 16; Conservative YSQVLFKGQGCPSTHV 16 YSQVLFKGQGCPSTHV 75
11111111111111111111111111111111111111	RESULT 1 0951E8 1D 0951E8 AC 0951E8; DT 01-DEC-2001 DE TNF-alba-2002 RAMMalia; Bullia; Bu	Query Match Best Local Matches 1 Qy 1 YSQ Db 60 YSQ

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Gaps

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Iris F., Bougueleret L., Prieur S., Caterina D., Primas G., Perrot V., Jurka J., Rodriguez-Tome P., Claverie J., Cohen D., Dausset J.: Dense Alu clustering and a potential new member of the NFkappaB family within a 90 Kilobase HLA class III segment.";
Nat. Genet. 3:137-145(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Carry Man Dilk M.A.M., de Jong W.W.;

Van Dilk M.A.M., de Jong W.W.;

Van Dilk M.A.M., de Jong W.W.;

"Indels indicate that rodents are monophyletic and lagomorphs are their sister group.";

Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AJ268630; CAC28522.1;

REMBL, AJ268630; CAC28522.1;

REMBL, AJ268630; TNF_abc.

InterPro; IPR00438; TNF_family.

R interPro; IPR00438; TNF_family.

R propris, PR00129; TNF: 1.

PRONTE; PR00129; TNF: 1.

R SMART; SM00207; TNF: 1.

R PROSITE; PS00251; TNF_1.

R PROSITE; PS0049; TNF_2; 1.

R NON_TER 215 215

SEQUENCE 215 AA; 23696 MW; 3E337E7E65F074EA CRC64;
                                                                                                                                                                                                                                                                                                                                                                 Erinaceus europaeus (Western European hedgehog).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Insectivora; Erinaceidae; Erinaceinae; Erinaceus.
NCBI_TaxID=9365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                        0; Indels
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                                                                                                                                                                                                                                                                 01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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                   Pred. No. 7.9e-08;
                                                                                                                                                                                                                          215 AA
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                                        Mismatches
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                                                                                                                                                                                                                                                                                                                                 Tumor necrosis factor (Fragment).
100.08; Fix
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Best Local Similarity 100.
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Matches 16; Conservative
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SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                  Q9BEE8;
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                                                                                                                                                                                 RESULT 4
Q9BEE8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 5
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                                                                                                                                                                                                   Aotus nancymaae (Owl monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Aotinae; Aotus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 89; DB 6; Length 149; 100.0%; Pred. No. 7.5e-08; 1ve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jang J.S., Kim B.E.;
Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
EMBL: AFO43421, AAC03542.1; -.
HSSP; P01375; 1A8M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               149 AA; 16466 MW; 3C2A6140778EFA8A CRC64;
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Last annotation update)
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01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Tumor necrosis factor alpha (Fregment).
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                                                         149 AA
                                                                                                                                                            Tumor necrosis factor alpha (Fragment)
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InterPro; IPR000478; TNF_family.
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PRINTS; PR01234; TNECROSISFCT.
PPODOM; PD002012; TNF_abc; 1.
SMART; SM00207; TNF_1.
PROSITE; PS00251; TNF_1:
PROSITE; PS50049; TNF_2; 1.
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Best Local Similarity 100.
Matches 16; Conservative
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                                                         PRELIMINARY;
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SEQUENCE FROM N.A.
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MEDLINE=95324911; PubMed=7601445;
Peelman L., Chardon P., Nunes M., Renard C., Geffrotin C., Vaiman M.,
Van Zeveren A., Coppieters W., Van de Weghe A., Bouquet Y., Choy W.,
Strominger J., Spies T.,
The BAT1 Gene in the MHC Encodes an Evolutionarily Conserved Putative
Nuclear RNA Helicase of the D-E-A-D Family.";
                                                                                                                                                                                                                                 Weiss \tilde{E}.H..; "Cloning and genomic characterization of LST1: a new gene in the human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
MEDLINE-86016093; PubMed=2995927;
NedWin G.E., Naylor S.L., Sakaguchi A.Y., Smith D., Jarrett-NedWin J., Pennica D., Goeddel D.V., Grap.P.W.;
"Human Lymphotoxin and tumor necrosis factor genes: structure, homology and chromosomal localization.";
Nucleic Acids Res. 13:6361-6373(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE=94362679; PubMed=8081366;
Albertella M.R., Campbell D.R.;
"Characterization of a novel gene in the human major
histocompatibility complex that encodes a potential new member of the
I kappa B family of proteins.";
Hum. Mol. Genet. 3:793-799(1994).
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J. Exp. Med. 173:209-219(1991).
                 Utans U., Quist W.C., McManus B.M., Wilson J.E., Arceci R.J., Wallace A.F., Russell M.E.;
"Allograft inflammantory factory-1. A cytokine-responsive macrophage molecule expressed in transplanted human hearts.";
                                                                                                                                                                                                                                                                                                                                                    SECUENCE FROM N.A.
MEDLINE-9320881; PubMed-7916655;
Browning J.L., Ngamerk A., Lawton P., DeMarinis J., Tizard R.,
Chow E.P., Hession C., O'Brine-Greco B., Roley S.F., Ware C.F.;
"Lymphotoxin-beta: A new member of the TNF family that forms a
heteromeric complex with lymphotoxin on the cell surface.";
cell 72:847-856(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-91139175; PubMed-1671667; Abraham L.J., Whitehead A.S.; Abraham L.J., Dau D.C., Zahedi K., Dawkins R.L., Whitehead A.S.; Haplotypic polymorphisms of the TNFB gene."; Immunogenetics 33:50-53(1991).
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Neville M.J., Campbell R.D.;
"Alternative splicing of the LST-1 gene located in the major histocompatibility complex on human chromosome 6.";
DNA Seq. 8:155-160(1997).
                                                                                                                                                                                     MEDLINE-96006565; PubMed-7590964;
Holzinger I., de Baey A., Messer G., Kick G., Zwierzina H.,
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MEDLINE-91086846; Pubmed-1670638;
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MEDLINE-98035883; PubMed-9367684;
  MEDLINE=96215741; PubMed=8629302;
                                                                                                                                                                                                                                                                                    NF region.";
mmunogenetics 42:315-322(1995).
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                                                                                                                                                                                                                         Shiina T., Tamiya G., Oka A., Yamagata T., Yamagata N., Kikkawa E., Goto K., Mizuki N., Watanabe K., Fukuzumi Y., Taguchi S., Sugawara C., Ono A., Chen L., Yamazaki M., Tashiro H., Ando A., Ikemura T., Kimura M., Inoko H.; Rashiro H., Ando A., Ikemura T., "Nucleotide sequencing analysis of the 146-kilobase segment aroud the IkbL and MICA genes at the centromeric end of the HLA class I
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Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
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STRAIN-THOROUGHBRED; TISSUE-ARTERIAL ENDOTHERIUM;

STRAIN-THOROUGHBRED; TISSUE-ARTERIAL ENDOTHERIUM;

Inshida N., Sato F., Hasegawa T.;

"Molecular cloning of equine tumor necrosis factor-alpha mRNA.";

Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AB035735; BAA88349.1; -.

EMBL; AB035735; BAA88349.1; -.

Interpro; IPR000336; TNF_abc.

Interpro; IPR000478; TNF_family.
                                                              "Complex expression patern of the TNF region gene LST1 through differential regulation, initiation, and alternative splicing."; Genomics 45:591-600(1997).
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de Baey A., Fellerhoff B., Maier S., Martinozzi S., Weidle U.,
Weiss E.H.;
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Pred. No. 1.2e-07;
Mismatches 0; Indels
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ProDom; PD002012; TNF_abc; 1.
SMART; SM00207; TNF_1.
PROSITE; PS00251; TNF_1: 1.
PROSITE; PS50049; TNF_2: 1.
SEQUENCE 234 AA; 25430 MW; 2384D4950A21F377 CRC64;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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Pred. No. 1.2e-07;
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InterPro; IPR000478; TNF_family.
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Prodom; PR01234; TNECROSISFCT.
Prodom; PD002012; TNF_abc; 1.
SMART; SM0207; TNF, 1.
PROSITE; PS00251; TNF_1; 1.
PROSITE; PS0049; TNF_2; 1.
SEQUENCE 232 AA; 25446 MW; E
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ilarity 100.0%;
Conservative 0
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EMBL; Y14768; CAA75070.1; -.
HSSP; P01375; 4TSV.
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Matches 16; Conservative
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Fonfara S., Groene A., Koenig M., Wolfgang B.;
"Sequence of canine tumor necrosis factor alpha mRNA in DH82-cells.";
Sequence of canine tumor necrosis factor alpha mRNA in DH82-cells.";
Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AR349537; AR54071.1;
InterPro; IPR003658; TNF_abc.
InterPro; IPR000478; TNF_abc.
InterPro; IPR00029; TNF, INF_abc; 1.
PROSITE; PS00251; TNF_abc; 1.
PROSITE; PS50049; TNF_2: 1.
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Eukaryota: Merazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Aotinae; Aotus.
NCBI_TaxID=43147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Canis familiaris (Dog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Carnivora, Fissipedia, Canidae, Canis.
                                                                                                                       Score 79; DB 6; Length 217;
Pred. No. 6.2e-06;
0; Mismatches 1; Indels
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Pred. No. 2.9e-06;
0; Mismatches 1; Indels
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Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A.,
Patarroyo M.E.;
"Aotus lemurinus gene for TNF alpha.";
Submitted (0CT-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF097329; AAF21304.1; -.
HSSP; P01375; 4TSV.
                                              1 1 217 217 217 217 AA; 23655 MW; A7056710B6238074 CRC64;
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65 AA; 7065 MW; 917C467AO5F42B5B CRC64;
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01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Tumor necrosis factor alpha (Fragment).
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-0CT-2001 (TrEMBLrel. 18, Last annotation update)
Tumor necrosis factor alpha (Fragment).
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93.8%;
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    PS500251; TNF_1; 1.
PS50049; TNF_2; 1.
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                                                                                                                   Query Match 88.8
Best Local Similarity 93.8
Matches 15; Conservative
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Yan Dijk M.A.M., de Jong W.W.;

"Indels indicate that rodents are monophyletic and lagomorphs are their sister group.";

Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AJ286828; CAC28514.1;

REMBL, AJ286828; CAC28514.1;

REMBL, PO1375; 1A8M.

InterPro; IPR003436; TNF_abc.

RICHEPTO; IPR003436; TNF_family.

PFam: PF00229; TNF: 1.

PRODU: PF00229; TNF: 1.

PRODU: PF00229; TNF: 1.

ROMORT; SM00207; TNF: 1.

ROSITE; PS0049; TNF_1: 1.

ROSITE; PS0049; TNF_2: 1.

RON_TER 217 AA; 23753 MW; F760E887F6C29EBB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N [1]

A van Dijk M.A.M., de Jong W.W.;

A van Dijk M.A.M., de Jong W.W.;

T their sister group.

I their sister group.

Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.

EMBL; AJ286827; CAC28513.1; -..

R HSSP; P01375; AA8M.

I InterPro; IPR003636; TNF_abc.

InterPro; IPR003636; TNF_family.

R Pfam; PF00229; TNF; 1.

R Pfam; PR01234; TNFRROSISFCT.

R Probom; PD002012; TNF_abc; 1.

R SMARN; SM01207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                  Cyclopes didactylus (silky anteater).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Edentata; Myrmecophagidae; Cyclopes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bradypus tridactylus (Pale-throated three-toed sloth).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Edentata; Bradypodidae; Bradypus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94.4%; Score 84; DB 6; Length 217; 93.8%; Pred. No. 8.2e-07; ative 0; Mismatches 1; Indels
                                                                                                                                                     01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                   217 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             217 AA.
                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                  Tumor necrosis factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tumor necrosis factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127 YSQVLFKGQGCPSAHV 142
136 YSQVLFKGQGCPSTHV 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 93.8
Matches 15; Conservative
                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                               NCBI_TaxID=84074;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9354;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
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Q9BEG1 Q9BEG1

RESULT 8

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O9BEG1

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Gaps

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Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Aotinae; Aotus.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Tumor necrosis factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        127 YSQVLFTGQSCPSTHV 142
                                                                                                                                                                                                                                                                    Best Local Similarity 100.0
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 86.5
Best Local Similarity 87.5
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                   52 YSQVLFKGQGCPST 65
                                                                                                                                                                                                                                                                                                      1 YSQVLFKGQGCPST 14
               NCBI_TaxID=57175;
                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                        NON_TER
                                                                                                                                                                                                                                                                                                                                                                                    O9BEF4
                                                                                                                                                                                                                                                                                                                                                            RESULT 13
Q9BEF4
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
Identification, cloning and sequencing of different interleukin genes in 4 Aotus species.";
Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AF014508; AAD01534.1; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Aotinae; Aotus.
NCBI_TaxID=57176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Aotus nigriceps (black-headed night monkey).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
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                                                                                                                             86.5%; Score 77; DB 6; Length 138; 100.0%; Pred. No. 8.9e-06; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86.5%; Score 77; DB 6; Length 149; 100.0%; Pred. No. 9.6e-06; tive 0; Mismatches 0; Indels
InterPro; IPR003636; TNF_abc.
InterPro; IRR000478; TNF_family.
Pfam; PF00229; TNF; 1.
PRINTS; PR0020134; TNF_abc; 1.
SMART; SM002012; TNF_abc; 1.
SMART; SM00207; TNF_1.
PROSITE; PS00049; TNF_2; 1.
NOW_TER 1 1 1
SEQUENCE 138 AA; 15269 MW; 29275EE4F4CD5068 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NON_TER 149 149
SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;
                                                                                                                                                                                                                                                                             01-WAY-1999 (TrEMBLrel. 10, Created)
01-WAY-1999 (TrEMBLrel. 10, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
fumor necrosis factor alpha (Fragment).
                                                                                                                                                                                                                                                          PRT; 149 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 149 AA
                                                                                                                                                                                                                                                                                                              Tumor necrosis factor alpha (Fragment).
                                                                                                                                                                                                                                                                                                                                       Aotus vociferans (noisy night monkey).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro: IPR003636; TNF_abc.
InterPro: IPR003636; TNF_abc.
InterPro: IPR000478; TNF_family.
Pfam: PF001234; TNF: 1.
PR0DOM: PD002012; TNF_abc; 1.
SMART: SW002012; TNF_abc; 1.
PR0SITE: PS00251; TNF_1;
NON_TER: PS50049; TNF_1;
NON_TER: PS50049; TNF_2; 1.
                                                                                                                                        Best Local Similarity 100.
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                      52 YSQVLFKGQGCPST 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 YSQVLFKGQGCPST 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52 YSQVLFKGQGCPST 65
                                                                                                                                                                          1 YSQVLFKGQGCPST 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
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                                                                                                                               Query Match
                                                                                                                                                                                                                                                       097538
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                                                                                                                                                                                                                                 RESULT 11
097538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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Q9TTG8
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Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Edentata; Dasypodidae; Cabassous.
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Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A.,
Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A.,
Patarroyo M.E.;
Aotus nigriceps gene for TNF alpha.";
Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF097328; AAF21303.1;
HSSP; PO1375; 4TSV.
InterPro; IPR000436; TNF_abc.
InterPro; IPR000436; TNF_abc.
PRINTS; PR01234; TNECROSISFCT.
PRINTS; PR01234; TNF_abc; 1.
RNAT; SM00201; TNF; 1.
RNAT; SM00201; TNF; 1.
PROSITE; PS00251; TNF; 1.
PROSITE; PS00251; TNF; 1.
PROSITE; PS00251; TNF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86.5%; Score 77; DB 6; Length 149;
100.0%; Pred. No. 9.6e-06;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         217 AA.
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                                                                                                  Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amamalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Talpa europaea (European mole).
Sukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Insectivora; Talpidae; Talpa.
NCBI_TaxID=9375;
                                                                                                                                                                                 P. SEQUENCE ETWIN W.A.

C. STRAIN=HOLSTEIN;
A Dietz A.B., Neibergs H.L., Kehrli M.E.;
T. "Development of a Bovine TNFa Single Strand Conformational
II "Development of a Bovine TNFa Single Strand Conformational
II Submitted (Jun-1994) to the EMBL/GenBank/DDBJ databases.
R. BASP; poll375, TYP.
R. RSSP; poll375, TYP.
R. InterPro; IPR000478; TNF_abc.
R. InterPro; IPR000478; TNF_abc.
DR PROMOTIS; PR01234; TNFEAbc;
DR PROMOM, PD002012; TNF_abc;
DR SMART; SM00207; TNF; 1.
DR PROSTIE; PS00251; TNF_1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
                                                                                                                                                                                                                                                                                                                                                                                                                                 83.1%; Score 74; DB 6; Length 104; 92.9%; Pred. No. 2.3e-05; tive 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                          104 AA; 11662 MW; BCE0A76D9FFA44BD CRC64;
                                   Q27978;
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Tumor necrosis factor (Fragment).
                          104 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          216 AA.
                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 92.9
Matches 13; Conservative
                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 46 YSQVLFRGQCCPST 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 YSQVLFKGQGCPST 14
                                                                                                                                                                   [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NON-YER.
                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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Q9BEC4;
                         027978
RESULT 14
Q27978
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December 4, 2002, 13:18:13 ; Search time 26.1053 Seconds (without alignments) 81.670 Million cell updates/sec
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| SIDS2/gcgdata/geneseq/geneseqp-emb1/Aa1981.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-emb1/Aa1981.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-emb1/Aa1982.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-emb1/Aa1984.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-emb1/Aa1986.DAT:*
| SIDS2/gcgdata/geneseq/geneseqp-emb1/Aa1985.DAT:*
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| SIDS2/gcgdata/geneseqy-emb2/Aa1980.DAT:*
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| SIDS2/gcgdata/geneseqy-emb2/Aa1993.DAT:*
| SIDS2/gcgdata/geneseqy-emb2/Aa1993.DAT:*
| SIDS2/gcgdata/geneseqy-emb1/Aa1995.DAT:*
| SIDS2/gcgdata/geneseqy-emb2/Aa1995.DAT:*
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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                   OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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89
1 YSQVLFKGQGCPSTHV 16
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Maximum DB seq length: 200000000
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Perfect score:
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                                                                                                                                                                                                                                                                                               Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2001.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2002.DAT:*

/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1997.DAT: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1998.DAT: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT:

	Description	hTNF-alpha epitope	Human tumour necro	Tumour necrosis fa	Sequence of new to	Sequence of modifi	Human tumour necro	C-terminal region	Polypeptide derive	Antitumour peptide	Synthetic tumour n
SUMMARIES	ID	AAW22949	AAW59148	AAR72456	AAP82043	AAP81853	AAB67245	AAY71982	AAP91635	AAR05612	AAP70528
	DB	18	19	16	6	6	22	22	10	11	8
	Ouery Match Length DB	22	22	140	145	147	147	147	149	149	150
dР	Ouery Match	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Score	89	83	88	89	89	89	88	88	83	83
	Result No.	-	2	m	4	S	9	7	80	6	10

TNF-derived polype Modified tumour ne TNF analogue: AA TNF analogue. AA Sequence of new ph Sequence of new ph	l pol r act ptide e wit	Tumour Necrosis Fa TWF analogue #1. TWF analogue #2. TWF polypeptide mu Human TWF mutein.	Human TNF mutein. Human TNF mutein. Human TNF mutein. Human TNF mutein. Tumoricide polypep Anti-tumour peptid Sequence of modifi	Polypeptide with a Anti-tumour peptid Antitumour polypep Tumour Necrosis Fa Tumour necrosis fa Truncated Tumour Ne Tumour Necrosis Fa Human TNF with mod Tumour Necrosis Fa Tumour Necrosis Fa
50 8 AAP71245 50 9 AAP81236 50 9 AAP82190 50 9 AAP82303 50 9 AAP81066	50 10 50 11 50 11 50 11	12 13 13 15	500 15 500 15 500 15 51 9 A 51 9 A	151 10 AAP93187 155 11 AAR05865 151 12 AAR1015 151 12 AAR11613 151 12 AAR11161 151 12 AAR11861 151 12 AAR11861 151 12 AAR11961 151 12 AAR11967 151 12 AAR11967
100.0 100.0 100.0 100.0 100.0	100.00	1000.00	1000.00 1000.00 1000.00 1000.00	889 1000.0 10000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000
11 12 13 14 15	17 18 19 20 21	22 2 2 3 2 5 4 3 2 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	28	33333333333333333333333333333333333333

ALIGNMENTS

RESULT 1

AAW2	AAW22949
Ω	AAW22949 standard; peptide; 22 AA.
×	
AC	AAW22949;
×	
DŢ	05-MAR-1998 (first entry)
XX	
DE	hTNF-alpha epitope 59-80.
×	
ΚW	tumour necrosis factor alpha; TNF; epitope; antibody; antagonist;
ΚW	fibrinogen; cardiovascular; cerebrovascular; thrombosis; stroke;
ΚW	thrombophlebitis; myocardial infarction; embolism; ischaemia.
X	
SO	Homo sapiens.
XX	
PN	WO9730088-A2.
XX	
PD	21-AUG-1997.
XX	
PF	17-FEB-1997; 97WO-GB00435.
×	
PR	16-FEB-1996; 96US-0602272.
××	
ΡA	(KENN-) KENNEDY INST RHEUMATOLOGY.
××	•
ΡΙ	Elliott MJH, Feldmann M, Maini RN;
XX	
DR	WPI; 1997-424980/39.
××	
ΡŢ	lai
PT	thrombotic disorder, or decreasing plasma fibrinogen - by
7	administration of tamout necrosis factor antagonist

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but preferably by intravenous injection or infusion. Usual doses are 0.01-100 (especially 1-40) mg/kg/day, in 1-6 portions or in sustained release form. Further doses may be given, just before or during relapse. Inhibition of TNF alpha by Ab alleviates some of the systemic toxicity eslocated with administration of IL-2 (which increases the level of CD4+ cells but also stimulates production of TNF, high levels of which cause unwanted inflammatory and immunological responses). Blockade of TNF allows administration of higher doses of IL-2 than would be otherwise
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1995-168947/22.
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                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140 AA;
                                                                                                                                                                                                                                                                                                                                                     22 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-JAN-1995
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                                                                                                                                                                                                                                                                                        possible
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                 factor (TNF) for the treatment of vascular disease, cardiovascular disorders, thrombotic disorders, or illnesses or pathologies which can be treatable by decreasing plasma fibrinogen. Typical conditions which can be treated include acute myocardial infarction, deep vein thrombosis, thrombothebitis, stroke, thromboembolic disorder or ischemic events. In one embodiment the antagonist used is an anti-TNF antibody (optionally chimeric, humanised or resurfaced), preferably one which bluds to an epitope comprising at least 5 amino acids within the region TNF-alpha 87-108 and/or TNF-alpha 59-80. The present sequence represents the 59-80 epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This peptide sequence is a fragment of tumour necrosis factor-alpha length protein. This region is an epitope and is recognized and/or binds with anti-TWR activity. This fragment is used to describe a novel method of treating or preventing acquired immune deficiency disease and infection with human immune deficiency virus (HIV) by co-administration of interleukin-2 (IL-2) and a chimeric antibody (Ab), or its fragment, against tumour necrosis factor (TWR). IL-2 and Ab are administered by injection, orally, topically or are produced from gene therapy vectors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tumour necrosis factor-alpha; epitope; human immunodeficiency virus; HIV; Thr8-alpha; anti-Thr8; antibody; treatment; prevention; infection; acquired immune deficiency disease; interleukin-2; IL-2; gene therapy; systemic toxicity; CD4+ cell; inflammation; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                    invention relates to the use of an antagonist of tumour necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Treating or preventing acquired immune deficiency syndrome using interleukin-2 - and antibodies against tumour necrosis factor, to reduce side effects of the treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human tumour necrosis factor-alpha epitope pos. 59-80.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 89; DB 18;
100.0%; Pred. No. 1.1e-06;
ive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW59148 standard; peptide; 22 AA.
                                57pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 10; Page 11; 50pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-AUG-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Walker RE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 100.
Best Local Similarity 100.
Matches 16; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1998-230303/20.
                                Claim 10; Page 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  McCloskey RV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9811917-A1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-SEP-1997;
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                                                                                                        The
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                                                Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The amino acid sequence of a part of the 4th exon from the tumour necrosis factor (TNF)-alpha. The protein has the peptide AAR72454 attached to the N-terminal amino acid. The fusion protein can be used in pharmaceutical compositions for inhibiting metastasis.
                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                            Tumour necrosis factor; fusion protein; metastasis; inhibition.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "This residue has the peptide AAR72454 attached at the N-terminus"
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  Length 22;
                                              Indels
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100.0%; Pred. No. 6.4e-06;
iive 0; Mismatches 0;
  Score 89; DB 19;
Pred. No. 1.1e-06;
                                                                                                                                                                                                                                                                                                                                                                              Tumour necrosis factor-alpha 4th exon fragment.
                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                               AAR72456 standard; protein; 140 AA.
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100.0%;
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                                                                                                                                                                                                                                                                                                                                    (first entry)
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Best Local Similarity 100.
Matches 16; Conservative
                                           16; Conservative
                                                                                     1 YSQVLFKGQGCPSTHV 16
                                                                                                              1 YSQVLFKGQGCPSTHV 16
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Gaps

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AAP82043;

RESULT AAP8204

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DNA sequence encoding hTNF was synthesised chemically and inserted into vector plasmid. Recombinant plasmid was cut with restriction enzyme and DNA fragment coding for new bloactive polypeptide was obtd. The new bloactive polypeptide has ten N-terminal AAS deleted. It has antitumour activity greater than hTNF and can be produced by culturing bacteria transformed with a plasmid contg. DNA encoding the polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Use of divalent metal ions for making Apo-2 ligand and in formulations containing Apo-2 ligand for increasing yield and stability of ligand trimers, useful for therapeutic applications -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; Apo2 ligand: divalent metal ions; viral infection; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to a formulation comprising Apo-2 ligand and divalent metal ions. Apo-2 ligand and the formulation are useful for treating cancers and viral infections. Addition of divalent metal ions for making Apo-2 ligand and formulations containing Apo-2 ligand results in increased yield and stability of Apo-2 ligand trimers.
                                                 New bioactive polypeptide - has antitumour activity, and is obtd. by culturing bacteria transformed with plasmid contg. DNA sequence of the polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 147;
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                                                                                                                                                                                                                                                                                                                   Length 147;
                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ashkenazi AJ, Hymowitz S, Kelley RF, Koumenis I,
O'Connell M, Pai R, Shahrokh Z, Simmons L;
                                                                                                                                                                                                                                                                                                               100.0%; Score 89; DB 9; I
100.0%; Pred. No. 6.7e-06;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 89; DB 22;
Pred. No. 6.7e-06;
                                                                                                                      Claim 2(1); Page 761; 20pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB67245 standard; protein; 147 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human tumour necrosis factor alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 3; 60pp; English.
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100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                         64
                                                                                                                                                                                                                                                                                                                                                                                                         49 YSQVLFKGQGCPSTHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pai R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-123012/13.
 WPI; 1988-010365/02.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
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                                                                                                                                                                                                                                                                                Sequence 147 AA;
                    N-PSDB; AAN82306
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-APR-2001
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                                                                                                                                                                                                                                                                                                                   Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New biologically active polypeptide has cytotoxic activity specifically for tumour cells and, therefore, is expected to be used as an anticancer drug. It is derived from human TNP by deleting 11 N-terminal AAS. (See also J63188396, AAN81624 and AAP81236),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New biologically active polypeptide – useful as anticancer agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence of modified human tumour necrosis factor (hTNF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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100.0%; Pred. No. 6.6e-06;
ive 0; Mismatches 0;
                                                                                                                                                                                         Sequence of new tumour necrosis factor (TNF).
                                                                                                                                                                                                                            Anticancer drug; lymphokine; antitumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 2(1); Page 547; 17pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAP81853 standard; protein; 147 AA.
                                                                                   AAP82043 standard; protein; 145 AA.
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42 YSQVLFKGQGCPSTHV 57
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                                                                                                                                                                                                                                                              Homo sapiens
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Sequence

Query Match

Matches

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RESULT 5 AAP81853 AAP81853;

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The present invention relates to Tumour necrosis factor (TNF) and ApoL-related Leucocyte expressed Ligand 1 (TALL-1) nucleic acid molecules, proteins (including homologues), and their antibodies. The invention in particular relates to methods for regulating the interaction between TALL-1 and TALL-1 receptors (BCMA referred as B cell maturation factor) to regulate monocyte, macrophage and B lymphocyte mediated immune responses. TALL-1 protein is useful for identifying compounds that regulate B lymphocyte proliferation. It is also useful for treating B lymphocyte associated autoimmune disorders like rheumatoid arthritis, systemic lupus erythematosus (SiE), insulin dependent diabetes mellitus, multiple sclerosis, myasthenia gravis, Grave's disease, autoimmune haemolytic anaemia, autoimmune thrombocytopenia purpura, Goodpasture's syndröme, pemphigus vulgaris, acute rheumatic fever,
                                                                                                                                                                                                                                                                                      post streptococcal glomerulonephritis, or polyarteritis nodosa.
The TALL-1 protein and its corresponding nucleic acid sequence are also
                                                                                                                                                                                                                                                                                                                                                  The present sequence is a C-terminal region of human Tumour necrosis factor (TNF) which has 20-25% sequence identity with C-terminal region human TALL-1 protein extracellular domain.
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Matches 16; Conservative
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                                                                                                                                                                                                                                                                                                                                                                    Human; Tumour Necrosis Factor; TNF; immunosuppressant; TALL-1; Tumour necrosis factor and ApoL-related Leucocyte expressed Ligand 1; therapy; autoimmune disorder; rheumatoid arthritis; multiple sclerosis; systemic lupus erythematosus; SLE; insulin dependent diabetes mellitus; thrombocytopenia purpura; acute rheumatic fever; myasthenia gravis; haemolytic anaemia; Grave's disease; Goodpasture's syndrome; post-streptococcal glomerulonephritis; polyarteritis nodosa; BCMA; B cell maturation factor; pemphigus vulgaris; B-lymphocyte proliferation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Isolated TALL-1 protein is used to identify compounds that regulate B lymphocyte proliferation, used to treat B lymphocyte associated autoimmune disorders -
        Gaps
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      Indels
                                                                                                                                                                                                                                                                                                                                  C-terminal region of human Tumour Necrosis Factor (INF).
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/label= Beta_strand
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|abel= Beta_strand
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01-MAY-2000; 2000US-0201012.
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                                              Conservative
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      16;
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Region
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Length 147;
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                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                             Polypeptide derived from human tumour necrosis factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tumour necrosis factor; antitumour activity; pTNF482
Score 89; DB 22;
Pred. No. 6.7e-06;
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                                                   Mismatches
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Tumour necrosis factor.
       WPI; 1987-345004/49.
N-PSDB; AAN70852.
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                                                                                                                                                       Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                         150 AA;
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23-APR-1985;
26-FEB-1986;
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AAP71245
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                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                             New physiologically active polypeptide -
contains specific amino acid sequence, shows antitumour effect
and has low side effect.
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                                                                                                                                                                                                                                                                                                                     Length 149;
                                                                                                                                                                                                                                                                         DNA is synthesised from 17 oligonucleotides TNF-1 to TNP-17 The gene product may be truncated by 12 N-terminal AAs, and residue Leu-157 may be replaced by Phe
                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                     100.0%; Score 89; DB 11;
100.0%; Pred. No. 6.8e-06;
tive 0; M1smatches 0;
                                                                                                    Antitumour; cancer; tumour necrosis factor; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic tumour necrosis factor mutant.
                                                                                                                                                                                                                                                                                                                                                                                                  AAP70528 standard; protein; 150 AA.
                                          AAR05612 standard; protein; 149 AA
                                                                                                                                                                                                                                                           Disclosure; ; 18pp; Japanese.
                                                                                                                                                             88JP-0281364
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YSQVLFKGQGCPSTHV
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                                                                                      Antitumour peptide
                                                                                                                                                                                          (TEIJ ) TEIJIN KK.
                                                                                                                                                                                                                                                                                                       149 AA;
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                                                                                                                  Synthetic.
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                                                         AAR05612;
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      51
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Gaps
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It is expressed using expression vector pTNF 416 in E.coli.

The cells are then cultured to give the mutant in an amt. of 15.5% of total proteins. The antitumour activity of this protein was measured using mouse L-929 fibroblast cells. 100 microlitres of E.coli lysate contg. 0.00006 units had specific activity of the mutant of 0.000088 units/mg.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tumoricidal polypeptide(s) - are prepd. by cleaving specified DNA with pertinent restriction enzyme(s) and bonding with conventional synthetic DNA adaptor.
New bioactive polypeptide - having antitumour activity and higher activity than human tumour necrosis factor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 89; DB 8; Length 150; 100.0%; Pred. No. 6.8e-06;
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                                                                                                     Claim 1; page 623; 18pp; japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page 1; 20pp; Japanese.
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85JP-0087297.
86JP-0040733.
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Matches

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RESULT 12 AAP81236

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This physiologically active peptide is produced using recombinant DNA methods and is useful as an antitumour agent. It is applied as a drug compsn. See also J63267291.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This physiologically active peptide is produced using recombinant DNA methods and is useful as an antitumour agent. It is applied as a drug compsn. See also J63267290.
                                                                                                                                              New physiologically active polypeptide - is different from known human TNF protein and has antitumour activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New physiologically active polypeptide - is different from known human TNF protein and has antitumour activity.
                                                                                                                                                                                                                                                                                                     Length 150;
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100.0%; Pred. No. 6.8e-06;
ive 0; Mismatches 0;
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                                                                                                                                                                                         Claim 1; Page 1; 18pp; Japanese.
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                   87JP-0098552
                                               87JP-0098552.
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Best Local Similarity 100.
Matches 16; Conservative
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Best Local Similarity 100.
Matches 16; Conservative
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                                                                                                     WPI; 1988-357026/50.
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N-PSDB; AAN82098.
                                                                         (TEIJ ) TEIJIN KK.
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                                                                                                                    N-PSDB; AAN82096
                   23-APR-1987;
                                               23-APR-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TNF analogue.
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AAP82303
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                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mew biologically active polypeptide - is modified tumour necrosis factor with cytotoxic activity to cancer cells.
                                                                                                                                                                                                                                                                                                   Tumour necrosis factor; cytotoxic agent; antitumour drug; cancer.
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                              Length 150;
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                            100.0%; Score 89; DB 8; Length 15
100.0%; Pred. No. 6.8e-06;
ive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                      Modified tumour necrosis factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 1; 20pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                            87JP-0018566.
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                                          3est_Local Similarity 100.
4atches 16; Conservative
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Matches 16; Conserv
150 AA;
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                                                                                                                                                                                                                                                                                                                                                        JP63188396-A
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                                                                                                                                                                                                                                                                                                                                                                                    03-AUG-1988.
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                                                                                                                                                                                                                                                                                                                               Synthetic.
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 Sequence
                             Query Match
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RESULT 13 AAP82190 ID AAP8 XX

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A recombinant microorganism cell transformed by recombinant plasmid contg. the DNA region coding for the polypeptide is cultured. The polypeptide is isolated from the resulting culture. The microorganism is pref. Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                       New physiologically active polypeptide used as antitumour agent -obtd. by culturing recombinant Escherichia coli cell transformed by plasmid contg. DNA region coding the polypeptide
                                                                                                           Sequence of new physiologically active polypeptide with antitumour activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match

100.0%; Score 89; DB 9; Length 150; Best Local Similarity 100.0%; Pred. No. 6.8e-06; Matches 16; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                            Claim 2 (4); Page 670; 20pp; Japanese.
                            AAP81066 standard; protein; 150 AA.
                                                                                                                                                   Antitumour; Escherichia coli
                                                                                                                                                                                                                                 87JP-0059007
                                                                                                                                                                                                                                                          16-MAR-1987; 87JP-0059007
                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                              WPI; 1988-305170/43.
P-PSDB; AAP81068.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 150 AA;
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                                                                                 14-SEP-1990
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                                                      AAP81066;
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Search completed: December 4, 2002, 13:22:40 Job time: 27:1053 secs

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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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OM protein - protein search, using sw model

December 4, 2002, 13:24:03; Search time 5.89474 Seconds Run on:

(without alignments)
44.086 Million cell updates/sec

US-09-754-004-1 89 1 YSQVLFKGQGCPSTHV 16 Perfect score: Sequence:

Scoring table:

103943 seqs, 16242309 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

Published_Applications_AA:*

1: /cgn2_6/ptodata/1/pubpaa/USOB_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
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9: /cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		dР				
Result No.	Score	Query Match	Query Match Length DB	DB	ID	Description
1	89	100.0	16	10	US-09-754-004-1	Sequence 1. Appli
7	88	100.0	22	ω	US-08-602-272-1	Sequence 1, Appli
e	8	100.0	104	10	US-09-911-777-5	
4	88	100.0	150	10	US-09-877-156-25	Sequence 25, Appl
S	88	100.0	150	12	US-10-116-378-28	Sequence 28, Appl
9	88	100.0	152	σ	US-09-779-050A-24	Sequence 24, Appl
7	89	100.0		σ	US-09-903-327A-7	Sequence 7, Appli
6 0	88	100.0		10	US-09-756-301A-1	
თ	88	100.0		10	US-09-927-703-1	'n
10	89	100.0		10	US-09-854-280-19	19,
11	89	100.0		10	US-09-934-465-13	Sequence 13, Appl
12	88	100.0		10	US-09-766-535A-1	1, 1
13	89	100.0		10	US-09-854-208-19	
14	68	100.0		10	US-09-756-161A-1	1,
15	88	100.0		12	US-10-010-229-1	7
16	68	100.0		12	US-10-043-450-1	Sequence 1, Appli
17	88	100.0		12	US-10-044-534-1	Sequence 1, Appli
18	88	100.0		10	US-09-798-789-2	Sequence 2, Appli
19	88	100.0	164	10	US-09-981-289-2	Sequence 2, Appli

Sequence 3, Appli Sequence 5, Appli Sequence 5, Appli Sequence 22, Appli Sequence 23, Appli Sequence 6, Appli Sequence 14, Appli Sequence 14, Appli Sequence 13, Appli Sequence 14, Appli Sequence 17, Appli Sequence 17, Appli Sequence 11, Appli Sequence 17, Appli Sequence 7, Appli Sequence 7, Appli Sequence 7, Appli Sequence 7, Appli Sequence 16, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 18, Appli Sequence 17, Appli Sequence 18, Appli Sequence 19, Appli Sequence 10, Appli Sequence 28, Appli Sequence 28, Appli Sequence 28, Appli Sequence 30, Appli Sequence 30, Appli	
9 US-10-145-014-3 10 US-09-982-308-3 9 US-09-912-317A-5 9 US-10-115-511-3 9 US-10-145-014-25 10 US-09-193-663-5 10 US-09-193-663-5 10 US-09-1840-15 10 US-09-1840-15 10 US-09-1840-13 10 US-09-1845-790-3 10 US-09-1845-790-3 10 US-09-1845-790-3 10 US-09-1845-790-3 10 US-09-1845-790-3 12 US-10-012-452-10 9 US-09-779-050A-4 10 US-09-779-050A-6 10 US-09-189-059-7 10 US-09-189-059-7 10 US-09-189-059-7 10 US-09-189-059-14 10 US-09-189-059-14 10 US-09-189-059-16 10 US-09-189-059-16 10 US-09-189-059-17 10 US-09-189-059-17 10 US-09-189-059-17 10 US-09-189-059-17	
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ALIGNMENTS

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                   Sequence 1, Application US/09754004

Sequence 1, Application US/09754004

Sequence 1, Application US/09754004

GENERAL INFORMATION:

APPLICANT: Marc Fediman

APPLICANT: Ravinder N. Maini

TITLE OF INVENTION: The Alpha Antagonists and Methotrexate

TITLE OF INVENTION: The Treatment of TNF-Mediated Disease

TITLE OF INVENTION: The Application of TNF-Mediated Disease

CURRENT PELLING DATE: 2001-01-03

PRIOR FILING DATE: 1996-08-01

PRIOR PELLOR TION NUMBER: 08/690,775

PRIOR PELLOR DATE: 1996-02-28

PRIOR FILING DATE: 1996-02-28

PRIOR FILING DATE: 1994-03-10

PRIOR PLICATION NUMBER: PCT/GB94/00462

PRIOR PLICATION NUMBER: PCT/GB93/02070

PRIOR PLICATION NUMBER: PCT/GB93/02070

PRIOR APPLICATION NUMBER: 07/958,248

PRIOR PELLING DATE: 1993-10-06

PRIOR PRILING DATE: 1993-10-06
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100.0%; Pred. No. 1e-08;
ive 0; Mismatches 0;
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SOFTWARE: FastSEQ for W
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Best Local Similarity
Matches 16; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Homo sapien
US-09-754-004-1
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RESULT 2 US-08-602-272-1 ; Sequence 1, Application US/08602272

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APPLICANT: Ashkenazi, Avi J.
APPLICANT: Ashkenazi, Audrey
APPLICANT: Goddard, Audrey
APPLICANT: Goddard, Audrey
APPLICANT: Goddard, Audrey
APPLICANT: Gurney, Austin
APPLICANT: Marsters, Scot A.
APPLICANT: Marsters, Scot A.
APPLICANT: Wood, William
TITLE OF INVENTION: NOVEL TUMOR NECROSIS FACTOR RECEPTOR HOMOLOG AND
TITLE OF INVENTION: NUCLEIC
TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P1206R1
TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P1206R1
FILING DATE: 2002-04-04
PRIOR FILING DATE: EARLIER APPLICATION NUMBER: US 60/074,087
PRIOR FILING DATE: EARLIER FILING DATE: 1998-02-09
NUMBER OF SEQ ID NOS: 31
SEQ ID NO 28
LENGTH: 150
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Sequence 25, Application US/09877156
Patent No. US20020055625A1
GENERAL INFORMATION:
TITLE OF INVENTION: NEW MEMBERS OF THE AND THER FAMILIES
FILLE REFERENCE: 1408.003/200130.439C1
CURRENT APPLICATION NUMBER: US/09/877,156
CURRENT PILING DATE: 2001-06-08
PRIOR PILING DATE: 1998-06
NUMBER OF SEQ ID NOS: 25
SOFTWARE: 1998-06
SEQ ID NOS: 25
LENGTHARE: 150
LENGTH: 150
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100.0%; Pred. No. 1e-07;
iive 0; Mismatches 0;
                                                                                                                                                                                             100.0%; Score 89; DB 10; 100.0%; Pred. No. 7.1e-08;
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NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 5
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; Patent No. US20020150993A1
                                                                                                                                                                                               Query Match 100.
Best Local Similarity 100.
Matches 16; Conservative
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US-10-116-378-28
                                                                                             TYPE: PRT
, ORGANISM: Homo Sapien
US-09-911-777-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Homo sapien
US-09-877-156-25
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Best Local Similarity
Matches 16; Conserva
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US-09-877-156-25
                                                                         LENGTH: 104
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                         GENERAL INFORMATION:
APPLICANT: Elliott, Michael J.
APPLICANT: Elliott, Michael J.
APPLICANT: Hanil, Ravinder N.
APPLICANT: Hanil, Ravinder N.
APPLICANT: Feldmann, Marc
TITLE OF INVENTION: Methods of Preventing or Treating
TITLE OF INVENTION: Cardiovascular, Cerebrovascular and Thrombotic Disorders
TITLE OF INVENTION: With Tumor Necrosis Factor Antagonists
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ó
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Sequence 5, Application US/09911777;
Patent No. US20020037862A1
GENERAL INFORMATION:
APPLICANT: BIOGEN, INC.
APPLICANT: BROWNING, Jeffrey
APPLICANT: AMBROSE, Christine
APPLICANT: AMBROSE, Christine
APPLICANT: AMBROSE, Christine
APPLICANT: ACHOPP, Jurg
APPLICANT: SCHNEIDER, Pascal
ITILE OF INVENTION: BAFF, Inhibitors Thereof and Their Use
ITILE OF INVENTION: BAFF, Inhibitors Thereof and Their Use
ITILE OF INVENTION: In the Modulation of B-Cell Response
FILE REFERENCE: A070 US
CURRENT FILING DATE: 1999-01-25
PRIOR APPLICATION NUMBER: 60/114,169
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 1999-07-09
PRIOR FILING DATE: 2000-01-25
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                                                                                                                                                                                                                                             ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C. STREET: Two Militia Drive CITY: Lexington STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/602,272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 89; DB 8;
100.0%; Pred. No. 1.4e-08;
Live 0; Mismatches 0;
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STATE: MASSACE.
COUNTRY: U.S.A.
ZIP: 02173-4799
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
~WETER: IBM PC compatible
~WETER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Brook, David E.
REGISTRATION NUMBER: 22,592
REFERENCE/DOCKET NUMBER: KIR!
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 61/-00-
TELEPHONE: 61/-00-
TELEPHONE: 617-861-9540
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Best Local Similarity 100.
Matches 16; Conservative
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       Patent No. US20020081306A1
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GENERAL INFORMATION:
APPLICANT: Le, Junming
APPLICANT: Vilcek, Jan
APPLICANT: Mick, Jan
APPLICANT: Grayeb, John
APPLICANT: Grayeb, John
APPLICANT: Grayeb, John
APPLICANT: Siegel, Scott
APPLICANT: ON THING NATI-TNF Antibodies and Peptides of
TITLE OF INVENTION: Human Tumor Necrosis Factor
CURRENT APPLICATION NUMBER: US,09/756,301A
CURRENT APPLICATION NUMBER: US, 09/133,119
PRIOR APPLICATION NUMBER: US, 08/570,674
PRIOR PILING DATE: 1998-02-01
PRIOR FILING DATE: 1994-02-04
PRIOR PLICATION NUMBER: U.S. 08/192,093
PRIOR APPLICATION NUMBER: U.S. 08/193,413
PRIOR PLICATION NUMBER: U.S. 08/013,413
PRIOR PLICATION NUMBER: U.S. 07/943,852
PRIOR FILING DATE: 1992-02-02
PRIOR PLICATION NUMBER: U.S. 07/853,606
PRIOR FILING DATE: 1992-03-18
PRIOR FILING DATE: 1993-03-18
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APPLICANT: Siegel, Scott
TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
TITLE OF INVENTION: Human Tumor Necrosis Factor
FILE REFERENCE: 0975.1005-013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 89; DB 10;
100.0%; Pred. No. 1.1e-07;
tive 0; Mismatches 0;
                                                                                                                                                   Sequence 1, Application US/09756301A Patent No. US20010027249A1 GENERAL INFORMATION:
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Patent No. US2002002022031
GENERAL INFORMATION:
APPLICANT: Le, Junming
APPLICANT: Vilcek, Jan
APPLICANT: Daddona, Peter
APPLICANT: Ghrayeb, John
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Best Local Similarity 100.
Matches 16; Conservative
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                                                                                                                             US-09-756-301A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 9
US-09-927-703-1
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APPLICANT: Nemerow, Glen R.

APPLICANT: Nemerow, Glen R.

APPLICANT: Liber Structure Complement of the Structure of Invention Gene
TITLE OF INVENTION: GENE
TITLE OF INVENTION: GENE
TITLE OF INVENTION: GENE
TITLE OF INVENTION: GENE
FILE REFERENCE: 22908-1238
CURRENT APPLICATION NUMBER: US/09/903,327A
CURRENT APPLICATION NUMBER: 09/613,017
PRIOR APPLICATION NUMBER: 09/613,017
PRIOR APPLICATION NUMBER: 09/613,017
PRIOR FILING DATE: 2000-07-10
NUMBER OF SED ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7
LENGTH: 157
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LOCATION: (0)...(0)
POTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature of other information: peptide)
US-09-903-327A-7
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                   100.0%; Score 89; DB 12; Length 150; 100.0%; Pred. No. 1e-07; ive 0; Mismatches 0; Indels (
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Pred. No. 1.1e-07;
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US-09-779-050A-24
Sequence 24, Application US/09779050A
Sequence 24, Application US/09779050A
Sequence 10. US20020160416A1
GENERAL INFORMATION:
APPLICANT: BOYLE, WILLIAM
APPLICANT: BOYLE, WILLIAM
TITLE OF INVENTION: RECEPTOR FROM THE FAMILY
FILE REFERENCE: A-570B
CURRENT PELING DATE: 2001-02-12
PRIOR PLILING DATE: 2001-02-12
PRIOR FILING DATE: 2000-02-11
NUMBER OF SEQ ID NOS: 52
SOFTWARE: PATENTIN VERSION 3.0
SEQ ID NO 24
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Best Local Similarity 100.
Matches 16; Conservative
                                            Local Similarity 100.
ses 16; Conservative
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Matches 16; Conservative
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ORGANISM: Human
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                   Query Match
Best Local S
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                                                                        Matches
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Length 157;

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                                Indels
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APPLICANT: Vilcek, Jan
APPLICANT: Vilcek, Jan
APPLICANT: Daddona, Peter
APPLICANT: Knight, John
APPLICANT: Siegel, Scott
TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
TITLE OF INVENTION: Human Tumor Necrosis Factor
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CURRENT FILING DATE: 2001-01-18
PRIOR APPLICATION NUMBER: U.S. 09/133,119
PRIOR APPLICATION NUMBER: U.S. 09/133,119
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
PRIOR PELLONION NUMBER: U.S. 08/324,799
PRIOR FILING DATE: 1994-10-18
PRIOR FILING DATE: 1994-02-04
                           Mismatches
                                                                                                                                                                                                                                                          Sequence 13, Application US/09934465
Patent No. US20020102233A1
GENERAL INFORMATION:
TITLEONT: AShkenazi, Avi J.
TITLE OF INVENTION: APO-2 LIGAND
FILE REFERENCE: 11669.22US03
CURRENT APPLICATION NUMBER: US/09/934,465
CURRENT FILING DATE: 2001-08-21
PRIOR FILING DATE: 1966-01-09
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DR APPLICATION NUMBER: U.S. 08/013,413
DR FILING DATE: 1993-02-02
DR APPLICATION NUMBER: U.S. 07/943,852
DR FILING DATE: 1992-09-11
DR APPLICATION NUMBER: U.S. 07/853,606
DR FILING DATE: 1992-03-18
DR APPLICATION NUMBER: U.S. 07/670,827
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Patent No. US20020106372A1
GENERAL INFORMATION:
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SOFTWARE: PatentIn Ver. 2.0
                        16; Conservative
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Best Local Similarity 100.
Matches 16; Conservative
                                                                                                             59 YSQVLFKGQGCPSTHV 74
                                                                          1 YSQVLFKGQGCPSTHV 16
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; ORGANISM: Homo sapiens
US-09-934-465-13
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US-09-934-465-13
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US-09-766-535A-1
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LENGTH: 157
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Batent No. US20020052027A1
GENERAL INFORMATION:
APPLICANT: Chen, Jian
APPLICANT: Glar Addrey
APPLICANT: Gurney, Audirey
APPLICANT: Li, Hanzhong
APPLICANT: Li, Hanzhong
APPLICANT: Li, Hanzhong
APPLICANT: Li, HOWOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
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Pred. No. 1.1e-07;
CURRENT APPLICATION NUMBER: US/09/927,703
CURRENT FILING DATE: 2001-08-10
PRIOR FILING DATE: 2001-08-10
PRIOR FILING DATE: 2001-01-08
PRIOR FILING DATE: 1998-08-12
PRIOR FILING DATE: 1998-08-12
PRIOR FILING DATE: 1998-08-12
PRIOR FILING DATE: 1995-12-11
PRIOR PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR PILING DATE: 1994-10-18
PRIOR PRILING DATE: 1994-02-04
PRIOR PRILING DATE: 1993-01-29
PRIOR PRILING DATE: 1993-01-29
PRIOR FILING DATE: 1993-01-02-02
PRIOR FILING DATE: 1993-03-08
PRIOR FILING DATE: 1993-03-08
PRIOR FILING DATE: 1993-03-18
PRIOR FILING DATE: 1991-03-18
PRIOR FILING DATE: 1991-03-18
PRIOR RELING DATE: 1991-03-18
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PRIOR PRIOR PRIOR DATE: 1991-03-18
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CURRENT FILING DATE: 2001-05-10
PRIOR APPLICATION NUMBER: US 09/311,832
PRIOR PELING DATE: 1999-05-14
PRIOR PILING DATE: 1998-05-15
PRIOR FILING DATE: 1998-05-15
PRIOR FILING DATE: 1998-05-15
PRIOR FILING DATE: 1998-05-15
PRIOR FILING DATE: 1998-12-23
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 19
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100.0%;
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; ORGANISM: Homo sapiens
US-09-854-280-19
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Matches 16; Conserv
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Best Local Similarity
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; ORGANISM: Homo sapiens
US-09-756-161A-1
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US-10-010-229-1
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US-10-010-229-1
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                                                                                                                                   Length 157;
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Sequence 1, Application US/09756161A
Sequence 1, Application US/09756161A
Sequence 1, Application US/0976161A
Sequence 1, Application US/0976161A
Sequence 1, Application Sequence 1, Applicant Chrayba, John
APPLICANT: Ghrayba, John
APPLICANT: Right, David M.
APPLICANT: Siegel, Scott
TITLE OF INVENTION: Anti-THE Antibodies and Peptides of
TITLE OF INVENTION: Anti-THE Antibodies and Peptides
TITLE REFERENCE: 0975.1005-007
CURRENT PAPLICATION NUMBER: US/09/756,161A
CURRENT FILING DATE: 2001-01-08
PRIOR APPLICATION NUMBER: U.S. 09/133,119
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                                                                                                                                                                0; Indels
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                                                                                                                                                                0; Mismatches
PRIOR FILING DATE: 1991-03-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 157
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Patent No. US20020106743A1
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Best Local Similarity 100.
Matches 16; Conservative
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                                                                      TYPE: PRT
ORGANISM: Homo sapiens
US-09-766-535A-1
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US-09-854-208-19
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Best Local Similarity
Matches 16; Conserval
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US-09-756-161A-1
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100.0%; Pred. No. 1.1e-07;
ive 0; Mismatches 0;
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PRIOR FILING DATE: 1995-10-15
PRIOR FILING DATE: 1995-12-11
PRIOR FILING DATE: 1995-12-11
PRIOR FILING DATE: 1995-12-11
PRIOR FILING DATE: 1994-10-18
PRIOR FILING DATE: 1994-10-18
PRIOR FILING DATE: 1994-02-04
PRIOR PRIOR FILING DATE: 1993-02-02
PRIOR PRIOR DATE: 1993-02-02
PRIOR PILING DATE: 1993-02-02
PRIOR PILING DATE: 1993-02-02
PRIOR PILING DATE: 1993-02-02
PRIOR PRIOR FILING DATE: 1993-02-02
PRIOR APPLICATION NUMBER: U.S. 07/943,852
PRIOR PILING DATE: 1992-03-18
PRIOR FILING DATE: 1991-03-18
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SOFTWARE: FastSEQ for Windows Version 4.0
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Patent No. US20020114805A1
GENERAL INFORMATION:
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Best Local Similarity 100.0%;
Matches 16; Conservative 0
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Best Local Similarity 100.
Matches 16; Conservative
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CLASSIFICATION: 514
PROR APPLICATION DATA:
PRIOR APPLICATION DATA:
PRIOR DATE: 28-FEB-196
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 05-0C7-1993
PRIOR APPLICATION DATA:
RAPLICATION NUMBER: 22.592
ATTORNEY, AGENT INFORMATION:
RAGISTRENCE, DOX ESQ., David E.
REGISTRENCE, DOCKET NUMBER: 22.592
REFERENCE, OCCRET NUMBER: 22.593
REFERENCE, OCCRET NUMBER: 22.594
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION:
TELECOMUNICATION:
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APPLICATION NUMBER: US/08/690,775
FILING DATE: 01-AUG-1996
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48.612 Million cell updates/sec
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Sequence 9, Al
Sequence 1, Al
Sequence 9, Al
                                                                                                                  December 4, 2002, 13:21:18; Search time 9.68421 Seconds
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Sequence 3
Sequence 3
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/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
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/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
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GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
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US-07-668-517-16

US-07-668-517-10

US-07-668-517-10

US-07-668-517-11

US-07-668-517-11

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US-07-668-517-11

US-07-668-517-12

US-07-668-517-13

US-07-668-517-13
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                                                                           OM protein - protein search, using sw model
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Maximum DB seq length: 200000000
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LENGTH: 22 amino acids amino acid

TYPE: amino STRANDEDNESS:

Sequence

US-07-994-469A-8

Sequence

Sequence

Sequence

Appl Appl Appli	App1								App1																					
57, 25,	18,	20,	23,	24,	25,	27,	30,	32,	38,	21,																				
Sequence Sequence Sequence									Sequence									METHOTREXATE IN	DISEASE		.c.									
US-07-994-469A-57 US-09-286-529-25 US-07-668-517-7	-07	-07-668-517-2	US-07-668-517-23	US-07-668-517-24	US-U/-668-51/-25 US-07-668-517-26	US-07-668-517-27	-07-668-517-	-07-668-517-	US-U/-668-51/-36 US-07-668-517-38	-07-668-517-2	ALIGNMENTS		57775					ODIES AND			SMITH & REYNOLDS, P	ы						ole	PC-DOS/MS-DOS	#I.U, Version #1
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150 150 151	151	151	151	151	151	151	151	151	151	152			7511 00	1011		Feldmann, Marc	Ra			RESS:		TWO MILITIA DRIVE	7	MASSACHUSETTS		FORM:	p Kddol	U	,	DATA
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50 50 50 80 80 80	o o	തെ	n 01	о (ת מ	00	n on	م د	ש מ	0			-775-1	No. 6270766	GENERAL INFORMATION:	APPLICANT:	ICANT:	TITLE OF INVENTION:	TILLE OF INVENTION:	CORRESPONDENCE ADDRESS:	ADDRESSEE: HAMILTON,		н	STATE: MA	COUNTRY: U		MEDIUM TYPE: Floppy disk	COMPUTER:	OPERATING	SOFTWAKE: Patentin Re- CHRRENT APPLICATION DATA
28 30 30	31	33	35	36	38 38	30	41	42	43 44	45		RESULT 1	US-08-690-775-1	: Patent No.	GENERA	; APPL	; APPL	TITE	. NIMB	CORR	, AD	: ST	CI	. S.		COMP	, ME	00	 QP	CURR

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Satoshi NAKAMURA et al.
VEWTION: No. 526230961 Physiologically Active
VEWTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
VEWTION: Cell, Pharmaceutical Composition and Method of Recovering
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Wenderoth, Lind & Ponack
805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Diskette, 5.25 inch, 500 Kb IBM Compatible
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/07668517 Patent No. 5262309
                         Aoyama, Yoshiyuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/
FILING DATE: 19910322
CLASSIFICATION:
                                           Shikama, Hiroshi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               : 145 amino acids
amino acid
       Keizo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 YSQVLFKGQGCPSTHV 16
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TITLE OF INVENTION: POIL
TITLE OF INVENTION: Cell
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; MOLECULE TYPE: protein US-07-994-469A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
                                                                                NUMBER OF SEQUENCES:
     Miyata,
                                                          TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
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Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Satosh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
STREET: 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: D.C
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                       APPLICANT:
APPLICANT:
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                                                                            Length 22;
                                                                                                                  Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 175 Jefferson Davis Highway, Fourth Floor CITY: Arlington ZTATE: Virginia ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/994,469A
FILING DATE: 21-DEC-1992
                                                                          100.0%; Score 89; DB 4; I
100.0%; Pred. No. 1.7e-08;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 89; DB 1; 1
100.0%; Pred. No. 1.2e-07;
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                                                                                                                                                                                                                                                                                                                                          APPLICANT: Yamada, No. 5519119utoshi
APPLICANT: Kato, Masanari
APPLICANT: Miyata, Keizo
APPLICANT: Aoyama, Yoshiyuki
APPLICANT: Shikama, Hiroshi
APPLICANT: Shikama, Hiroshi
NUMBER OF INVENTION: Polypeptide
NUMBER OF SEQUENCES: 101
CORRESPONDENCE ADRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Yamada, No. 5519119utoshi
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ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5519119man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 72-085-(
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)413-3000
                                                                                                                                                                                                                                                                                       Sequence 10, Application US/07994469A Patent No. 5519119 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Sequence 9, Application US/07994469A
; Patent No. 5519119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
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TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 10:
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APPLICANT: Yamada, No. 55:
APPLICANT: Kato, Masanari
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Best Local Similarity 100.
Matches 16; Conservative
                                                                          Query Match 100.

Best Local Similarity 100.

Matches 16; Conservative
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; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-690-775-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; MOLECULE TYPE: protein US-07-994-469A-10
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Gaps

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100.0%; Score 89; DB 1; Length 145; 100.0%; Pred. No. 1.3e-07; tive 0; Mismatches 0; Indels
                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
ADDRESSEE: P.C.
STREET: 1755 Jefferson Davis Highway, Fourth Floor
CITY: Arlington
STRYE: Virginia
ZIP: 22202
                                                                                                                                                                                                                                        ZIP: 24202
COMPUTER READABLE FORM:
MEDIUW TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPFRATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/994,469A
FILING DATE: 21-DEC-1992
CLASSIFICATION: 435
ATTORNEY/AGERT INFORMATION:
NAME: Oblon, No. 5519119man F.
REGISPRENCE/DOCKET NUMBER: 24,618
REFRENCE/DOCKET NUMBER: 72-085-0 FWC
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 9:
CPOILEMATON FOR SEQ ID NO: 9:
Polypeptide
101
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; MOLECULE TYPE: No. 6207642e
US-09-105-343A-9
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                                                                    Query Match 100.0
Best Local Similarity 100.0
Matches 16; Conservative
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Best Local Similarity 100.
Matches 16; Conservative
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CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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; OTHER INFORMATION:
US-07-668-517-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 805 Fiftee CITY: Washington STAFE: D.C. COUNTRY: U.S.A. 2IP: 20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: AMINO ACID
STRANDEDNESS: sin
 TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Satosh
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                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 89; DB 1; Length 147; 100.0%; Pred. No. 1.3e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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OPERATING SYSTEM: Windows
OPERATING SYSTEM: Windows
OSTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/105,343A
FLING DATE: 12-FEB-1998
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: BECKER, Cheryl L.
REGISTRATION NUMBER: 35,441
REFERNCE/DOCKET NUBER: 6048.US.P2
TELECOMMUNICATION:
TELEPHONE: 847-935-1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 9, Application US/09105343A
Patent No. 6207642
GENERAL INFORMATION:
APPLICANT: WILEY, S.R.
TITLE OF INVENTION: FOR TREATMENT ANN
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Park Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US98/02859
FILING DATE: 12-FEB-1998
ATTORNEY/AGENT INFORMATION:
                                               NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
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                                                                                                                                                                      INFORMATION FOR SEQ ID NO: 1:
                  FILING DATE: ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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ZIP: 60064-6050
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: single
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 100 ALL
CITY: Abbott Park
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                       16;
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STATE:
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APPLICANT: Satoshi NAKAMURA et al.
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS: ADDRESS: ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
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                                                        Gaps
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  Length 147;
100.0%; Score 89; DB 4; 1
100.0%; Pred. No. 1.3e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: MS-DOS
SOCTWARE: DISPLAYMITE
SURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
                                                                                                                                                                                                                                                      US-07-668-517-2; Sequence 2, Application US/07668517; Patent No. 5262309
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NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 149 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: 202-371-888
TELEFAX: 202-371-8856
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OTHER INFORMATION:
US-07-668-517-3
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
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Matches 16; Conserv
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U.S.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION
COUNTRY:
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Patent No. 5262309
GENERAL INFORMATION:
APPLICANT: Satoshi NAKAWURA et al.
APPLICANT: Satoshi NAKAWURA et al.
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth, Lind & Ponack
                  Sequence 15, Application US/07668517
Patent No. 5262309
GENERALI INFORMATION:
APPLICANT: Satoshi NAKAMURA et al.
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
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STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
                                                                                                                                                                                                                                                                                                        COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
                                                                                                                                                                                                                   ADDRESSE: Wenderoth, Lind & Ponack
STRET: 805 Fifteenth Street, N.W., #700
CITY: Mashington
STRATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         UMBER: US/07/668,517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 15:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 148 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: DISPLAYMITE
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 19910322
CLASSIFTCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                            NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 16; Conserv
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  US-07-668-517-15
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STATE:
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COMPUTES INFORMATION COMPUTED ASSECTED, 5.2 Inch, 500 KP
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NAKAMURA et al.

No. 5262309el Physiologically Active
No. 5262309el Physiologically Active
Polypeptide, Recombinant Plasmid, Recombinant Microorganism
Cell, Pharmaceutical Composition and Method of Recovering
50
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                                                                                                                                                Length 150;
                                                                                                                                                                                           Indels
                                                                                                                                              100.0%; Score 89; DB 1;
100.0%; Pred. No. 1.3e-07;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Wenderoth, Lind & Ponack
805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/07/668,517
                                                                                                                                                                                                                                                                                                                                                    US-07-668-517-5
Sequence 5, Application US/07668517
Patent No. 5262309
GENERAL INFORMATION:
APPLICANT: Satoshi NAKAMURA et al.
TITLE OF INVENTION: Polypeptide, FITLE OF INVENTION: Cell, Pharmace, NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Matthew Jacob
REGISTRATION NUMBER: 25,1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      150 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 150 amino acid
                                                                                                                                              Query Match 100.
Best Local Similarity 100.
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; IDENTIFICATION METHOD:
; OTHER INFORMATION:
US-07-668-517-5
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                                                              IDENTIFICATION METHOD:
COTHER INFORMATION:
US-07-668-517-4
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STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Washington
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Matches 16; Conserv
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                       NAME/KEY:
                                             LOCATION
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  FEATURE:
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TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
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ZIP: 20005

COMPUTER READBLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 19910322
CLASSIFCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
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US-07-668-517-4
; Sequence 4, Application US/07668517
; Patent No. 5262309
                   NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION: TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
                                                                                                                                                          INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 149 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: linear
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
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Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 YSQVLFKGQGCPSTHV 16
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) OTHER INFORMATION:

US-07-668-517-16
                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                        TOPOLOGY: linear
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                                                                                                                                                                                                                                              STRANDEDNESS:
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GENERAL INFORMATION:
APPLICANT: Satoshi NAKAMURA et al.
APPLICANT: Satoshi NAKAMURA et al.
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
STREET: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 89; DB 1; 1
Pred. No. 1.3e-07;
; Mismatches 0;
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MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
805 Fifteenth Street, N.W., #700
                                                                                                                        3: Diskette, 5.25 inch, 500
IBM Compatible
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0
                                                                                                                                                                                                                                                                                                                                                                                          NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION:
TELECOMMUNICATION:
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                                                                                                                                                                                                                                                         FILING DATE: 19910322
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                   COMPUTER: IBM Compatible OPERATING SYSTEM: MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM Compatible OPERATING SYSTEM: MS-DOS SOFTWARE: DisplayWrite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 150 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                         SOFTWARE: DisplayWrite CURRENT APPLICATION DATA: APPLICATION NUMBER: US/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: DisplayWrite CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best_Local Similarity 100.
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 YSQVLFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 52 YSQVLFKGQGCPSTHV 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: single
TOPOLOGY: linear
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; IDENTIFICATION METHOD:
; OTHER INFORMATION:
US-07-668-517-8
                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                        Washington
                                             D.C.
: U.S.A.
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                                                                                 20002
                                        STATE: D
COUNTRY:
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US-07-668-517-9
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                                                                             Sequence 6, Application US/07668517
Patent No. 5262309
GENERAL INFORMATION:
APPLICANT: Satoshi NAKAMURA et al.
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Pollypeptide, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 8, Application US/07668517

Patent No. 5262309

GENERAL INFORMATION:
APPLICANT: Satoshi NAKAMURA et al.
TITLE OF INVENTION:
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READBLE FORM:
COMPUTER READBLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 19910322
                                                                                                                                                                                                                                                                             E: Wenderoth, Lind & Ponack
805 Fifteenth Street, N.W., #700
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: MATCHEW JACOD
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECPHONE: 202-371-8850
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SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 100.
Best Local Similarity 100.
Matches 16; Conservative
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COTHER INFORMATION:
US-07-668-517-6
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20005
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                                                             US-07-668-517-6
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                                        RESULT 12
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Gaps

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Length 150; 0; Indels

Gaps

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Length 150; 7; 0; Indels

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Query Match 100.0%; Score 89; DB 1; I Best Local Similarity 100.0%; Pred. No. 1.3e-07; Matches 16; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 YSQVLFKGQGCPSTHV 16
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COTHER INFORMATION:
US-07-668-517-10
                                                       single
                                               STRANDEDNESS: sinc
TOPOLOGY: linear
FEATURE:
NAME/KEY:
                                                                                                                                                                                                            LOCATION:
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TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth Ting
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MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
COMPUTER: LIBM Compatible
OFRATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 19910322
CLASSIFICATION: 530
PRIOR APPLICATION: 530
PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: Wenderoth, Lind & Ponack STREET: Wenderoth, Lind & Ponack CITY: Washington STATE: D.C. STATE: D.C. ZIP: A.C. ZIP: A.C.
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US-07-668-517-10
: Sequence 10, Application US/07668517
; Patent No. 5263309
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELERAX: 202-371-8856
TELERAX:
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REGISTRATION NUMBER: 25,154
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SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 9: SEQUENCE CHARACTERISTICS: LENGTH: 150 amino acids TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
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Best Local Similarity 100.
Matches 16; Conservative
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IDENTIFICATION METHOD:
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TOPOLOGY: linear
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APPLICANT: Satoshi
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GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.

OM protein - protein search, using sw model

December 4, 2002, 13:21:33 ; Search time 15.6316 Seconds (without alignments) 135.300 Million cell updates/sec Run on:

US-09-754-004-2 115 1 YQTKVNLLSAIKSPCQRETPEG 22 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283224 seqs, 96134422 residues Searched:

283224 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_73:* Database :

1: pirl:* 2: pir2:* 3: pir3:* 4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

SUMMARIES	ID Description	C1260K	TROTTOR TOWNS	cumor necrosis	tumor necrosis	•	Cullior necrosis	timot	tumor necrosi	tumor necrosi	tumor necrosi	tumor	tumor	JQ1344 tumor necrosis	T02558 hypothetical pro	hypothetical			period	period clock	hypothetical	signal recogn					hypot	355	750
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100.0%; Score 115; DB 1; Length 232; 100.0%; Pred. No. 3e-11;

Query Match Best Local Similarity

arylamine N-acetyl	integrase/recombin	probable Tall-like	nitrogenase molybd	alginate biosynthe	acetyltransferase	probable G-protein	circadian rhythm p	period clock prote	protein-tyrosine k	ras-responsive ele	ribonuclease H (EC	ribonuclease H [im	probable periplasm	E2 protein - human	hypothetical prote
XYCHY3	A97037	T00813	A26940	D83202	JC7720	E86443	A25018	A26588	I38185	JC6510	H97453	AB2672	A82020	S36518	T26445
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290	340	418	458	475	846	848	1127	1218	1400	1615	146	146	160	345	540
36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.1	35.7	35.7	35.7	35.7	35.7
42	42	42	42	42	42	42	42	42	42	41.5	41	41	41	41	41
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

	RESULT 1 \$12606
	tumor necrosis factor alpha precursor - pig C;Species: Sus scrofa domestica (domestic pig)
	C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 04-Feb-2000 C:Accession: S12606: S17290: S18965: 146659
	R;Drews, R.T.; Coffee, B.W.; Prestwood, A.K.; McGraw, R.A. Nucleic Acids Res. 18, 5564, 1990
	A; Title: Gene sequence of porcine tumor necrosis factor alpha.
	A;Kererence number: S12505; MU1D:91016861; PMID:2216/41 A;Accession: S12606
	A;Molecule type: DNA A;Residues: 1-232 <dre></dre>
	A; Cross-references: EMBL:X54001; NID:92135; PIDN:CAA37949.1; PID:92136
	Kindinelt, F.; Muetilittii, C.; Peterilalis, E.; Paull, U. Gene 102, 171-178, 1991
	A; Title: The porcine tumor necrosis factor-encoding genes: sequence and comparative a
	A;Kerekence number: 51/289; MU1D:91340150; PM1D:18/4444 A:Accession: 517290
_	A; Molecule type: DNA
	A/NOCE: The authors translated the Codon 64% IOI residue 202 as 61y
	R.C.OLL, C.S.; MOLILOL, I.W.; Lin, G.F.; Mulcaugh, M.F. submitted to the EMBL Data Library, January 1991
	A; Description: Complete nucleotide sequence of a cDNA encoding porcine tumor necrosis
	A: Reference number: S18965
	A MACCENIA TADADA
	A) Residues: 1-232 <cho></cho>
	A; Cross-references: EMBL:X57321; NID:g2137; PIDN:CAA40591.1; PID:g2138
	Ribauli, U.; Beutler, B.; Peterhans, E.
	Gene at, 185-191, 1949 A:Title: Porcine tumor necrosis factor alpha: Cloning with the polymerase chain react
	A; Reference number: 146659; MUID:90034181; PMID:2478420
	A;Status; preliminary; translated irom GB/EMBL/DDBJ A:Molecule from: mRNA
	A. Residues: 44-232 <pau></pau>
	A. Cross-references: GB:M29079; NID:g164694; PIDN:AAA31128.1; PID:g164695
	C;Genetics:
	A;Introns: 62/3; 781, 93/1 C:Suberfamilv: tumor necrosis factor
	C; Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; m
	F:1-77/Domain: propeptide #status predicted <pro></pro>
	F:19-23/Prinding site. muristate (Lvs) (covalent) #status predicted <pre></pre>
	F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted
	F;144-176/Disulfide bonds: #status predicted

re

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A; Molecule type: DNA
A; Residues; 1-8 cABL-
A; Cross-references: GB:S6830; NID:9544751
A; Cross-references: GB:S6830; NID:9544751
B; Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.
B; Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.
J; Exp. Med. 176; 1033-1062, 1992
A; Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific A; Reference number: A59163; MUID:93018820; PMID:1402651
A; Title: Myristyl acylation of the tumor necrosis factor. Production, purification, and characterization. J Biol. Chem. 260, 2345-2345, 1985
B; A; Title: Human tumor necrosis factor. Production, purification, and characterization. A; Reference number: A92511; MUID:85130974; PMID:3871770
A; Confectiva: annotation; distulfide bond
A; Confectiva: annotation; distulfide bond
C; Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induct cout detriment to normal cells. It can also act synergistically with interferon gamma C; Comment: NRS-alpha and -beta (lymphotoxin) are the products of different genes clos ut are produced by different cell types and have different induction kinetics.
C; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
C; Gomplex: homotrimer
C; Superfamily: tumor necrosis factor
C; Skeywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphokine; m
F; 17-76/Domain: propeptide #status predicted cPRO>
F; 17-23/Product: tumor necrosis factor #status experimental
F; 18, 20/Binding site: myristate (LYS) (covalent); fartus experimental
F; 18, 20/Binding site: myristate (LYS) (covalent); fartus experimental
F; 18, 20/Binding site: myristate (LYS) (covalent); fartus experimental
R;D'Alfonso, S.; Richiardi, P.M.
Immunogenetics 39, 150-154, 1994
A;Title: A polymorphic variation in a putative regulation box of the TNFA promoter
A;Ference number: 154522; MUID:94102809; PMID:7903959
A;Accession: 154522
A;Status: preliminary; translated from GB/EMBL/DDBJ
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Cispecies: Sanjanwala, M.; Edwards, A.
Risanjanwala, Rabion Tumor Necrosis Factor Derived from Sequences of Genomic DNA.
A. Reference number: S22052
A. Accession: S2205
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C; Superfamily: tumor necrosis factor
C; Keywords: glycoprotein; lipoprotein; myristylation; transmembrane
F;19, 20/Binding site: myristatate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
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illarity 100.0%; Pred. No. 3e-11;
Conservative 0; Mismatchin
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A; Residues: 1-233 <PERN>
A; Residues: 1-233 <PERN>
A; Residues: 1-233 <PERN>
A; Cross-references: GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26669.1; PID:g37210
A; Cross-references: GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26669.1; PID:g37210
A; Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyeld R; Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdell, J.N.; Science 228, 149-154, 1985
A; Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.
A; Reference number: A44189; MUID:85142190; PMID:3856324
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A; Residues: 1-233 <NED>
A; Cross-references: GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26669.1; PID:g37210
A; Cross-references: GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26669.1; PID:g37210
B; Tils, FJ.J.M.; Bougueleret, L.; Prleur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurka
Nature Genet. 3, 137-145, 1933
A; Title: Dense Alu clustering and a potential new member of the NFkappaB family within a
A; Reference number: S36152; MUID:93272029; PMID:8499947
A; Accession: S36153
A; Status; nucleic acid sequence not shown; translation not shown
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A; Residues: 1-62, S', 64-233 <WAN>
A; Cross-references: GB:M10988; NID:g339737; PIDN:AAA61198.1; PID:g339738
A; Cross-references: GB:M10988; NID:g339737; PIDN:AAA61198.1; PID:g339738
B; Fukuda, S.; Ando, S.; Sanou, O.; Taniai, M.; Fujii, M.; Masaki, N.; Nakamura, K.I.; An
B; Fukuda, S.; Ando, S.; Sanou, O.; Taniai, M.; Fujii, M.; Masaki, N.; Nakamura, K.I.; An
A; Fulle: Res. 7, 175-185, 1988
A; Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta and
A; Reference number: A61478; MUID:88301617; PMID:2841543
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A;Residues: 83-102;109-119;121-128, X',130-131;142-144, X',146, XXX',150-152;159-174;186
B;Marmenout, A.; Fransen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima, Eur. J. Blochem. 152, 515-522, 1985
Bur. J. Blochem. 152, 515-522, 1985
A;Title: Molecular cloning and expression of human tumor necrosis factor and comparison A;Reference number: 153311; MUID:86030296; PMID:3932069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Species: Homo sapiens (man)
C; Species: Homo sapiens (man)
C; Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 08-Dec-2000
C; Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B23
R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, E
R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, E
R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, E
R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, E
R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, E
R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, E
R; Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, D.; Aylitle: Mannan lymphotoxin and tumor necrosis factor genes: structure, homology and chromatical description of the pennical description of the penni
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A; Residues: 1-233 <IRI>
A; Cross-references: EMBL:215026; NID:937211; PIDN:CAA78745.1; PID:937212
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992
R; Pennica, D:; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A.
Nature 312, 724-729, 1984
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A.Accession: $62610
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R;Takakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.
Eur. J. Biochem. 235, 431-437, 1996
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                  Indels
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N;Alternate names: cachectin; TNFA
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A; Status: translated from GB/EMBL/DDBJ
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A; Residues: 1-233 <MAR>
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A;Molecule type: mRNÁ
A;Residues: 36-38,'S',40-78,'A',80-88,'N',90-114,'Q',116-123,'D',125-144,'G',145-173,
A;Residues: B:MBL:X77317; NID:9452607; PIDN:CAA54523.1; PID:9452608
C;Superfamily: tumor necrosis factor
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytokine; glycoprotein; lymphokine; macrophage; membrane prote
F;42/Binding site: carbohydrate (Ser) (covalent) #status predicted
F:106-138/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tumor necrosis factor alpha precursor - bovine
C; Species: Bos primigenius taurus (cattle)
C; Species: Bos primigenius taurus (cattle)
C; Date: 10.58p-1999 #sequence_revision 10.58p-1999 #text_change 04-Feb-2000
C; Accession: I46047; S24642
R; Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and A; Reference number: 146046; MUID:94083525; PMID:8260599
A;Accession: I46047
A;Accession: I46047
A;Molecule type: DNA
A;Residues: 1-233 <CL2>
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Gene 109, 203-210, 1991
A;Title: Sequence of the CDNA encoding ovine tumor necrosis factor-alpha: problems wi
A;Reference number: JH0529; MUID:92112044; PMID:1765267
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C; Genetics:
A)Gene: TRFS
A)Cane: TRFS
A)Cane: TRFS
A)Cane: TRFS
C; Superfamily: tumor necrosis factor
C; Superfamily: transmembrane protein
F; 20/Binding site: myristate (Lys) (covalent) #status predicted
F; 81 ABinding site: carbohydrate (Ser) (covalent) #status predicted
F; 145-177/Disulfide bonds: #status predicted
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C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 04-Feb-2000
C;Accession: JH0529; S48118; S13114; S20661
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                                                                                                                                                                     A;Molecule type: mRNA
A;Residues: 1-193 <GOL>
A;Cross references: EMBL:X14828; NID:g992; PIDN:CAA32937.1; PID:g993
R;Rinstad, E.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 193;
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Pred. No. 3.5e-09;
.; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                       submitted to the EMBL Data Library, January 1994 A;Reference number: $41867 A;Refession: $41867 A;Status: preliminary
R;Goldstein, I.M.; Henner, D.; Talhouk, A. submitted to the EMBL Data Library, March 1989 A;Reference number: S06192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tumor necrosis factor alpha precursor - sheep
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90.5%;
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Best Local Similarity 90.5
Matches 19; Conservative
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Best Local Similarity
Loca 19; Conserve
                                                                                                                                  A; Accession: S06192
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C:Sacession: S22715
R:Mertens, B.; Gaidulis, L.
Submitted to the EMBL Data Library, March 1995
R:Mertens, B.; Gaidulis, L.
Submitted to the EMBL Data Library, March 1995
A:Reference number: S52715
A:Reference nu
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R;McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.
Nucleta Acids Res. 18, 5563, 1990
A;Title: Gene sequence of feline tumor necrosis factor alpha.
A;Title: Gene sequence of feline tumor necrosis factor alpha.
A;Title: Gene sequence of feline tumor necrosis factor alpha.
A;Reference number: S11688; MUID:91016860; PMID:2216740
A;Recession: S11688; MUID:91016860; PMID:2216740
A;Recession: S11688
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <MCG>
A;Coss-references: EMEL:X54000; NID:91084; PIDN:CAA37948.1; PID:9295777
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
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C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 28-Feb-1990 $sequence_revision 28-Feb-1990 #text_change 31-Jan-2000
C;Accession: S06192; S41867
                                                                                                                                                                                                                                                                                                                                           :Species: Felis silvestris catus (domestic cat)
:Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 04-Feb-2000
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Pred. No. 3.3e-09;
1; Mismatches 1;
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                                               163 YQTKVNLLSAIKSPCQRETPEG 184
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1 YQTKVNLLSAIKSPCQRETPEG
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Matches 19; Conservative
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Matches 22; Conserv
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A Residues: 1-235 CSHIP.

A Residues: 1-235 CSHIP.

A Reference commerce: GB:M00155

B R SDAKNOVA A.N.; Rodospagovo, S.A.
B GOOGS references: GB:M00155

B R STAKNOVA A.N.; Rodospagovo, S.A.
B GOOGS R R STATE: Nol-cular cloning of the genes coding for tumor necrosis factors: complete n A; Reference number: 803791

A; Rofores references: GB:M91296; NUID:9202086; PIDN:AAA40459.1; PID:9202087

A; Rosmow, D.; Ravashina, B: Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.Y.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.Y.; Shakhov, A.N.; Nedospasov, S.A.
B R; Semow, D.; Ravashina, B: Jongeneel, C.S.; Palladino, M.A.; Goeddel, D.V.
B R; Reference number: A9579; MUID:954830; PIDN:CAA68530.1; PID:954832

R; Petaneer number: A55164; MUID:95298296; PMID:3898078

A; Residues: 1.235 CRBA
A; Residues: 1.35 CRBA
A; 
                                                          NyAlternate names: cachectin; TNE alpha
C;Species: Mus musculus (house mouse)
C;Species: Mar-1988 #sequence_revision 31-Mar-1988 #text_change 04-Feb-2000
C;Accession: A22908; S03791; A27303; A25164; A33127; A34251; I59058; A36696
R;Shirai, T.; Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.
DNA 7, 193-201, 1988
A;Title: Cloning and expression in Escherichia coli of the gene for mouse tumor necro A;Reference number: A22908; MUID:88224564; PMID:2836146
A;Accession: A22908
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
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A;Molecule type: protein
A;Molecule type: protein
A;Residues 70-87 CGSE>
R;Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, S.L.; Cerami, A.
Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1286
A;Title: Identification of a common nucleotide sequence in the 3'-untranslated region
A;Reference number: I59058; MUID:86149365; PMID:2419912
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A; Title: Characterization of high molecular weight glycosylated forms of A; Reference number: A36696; MUID:91097531; PMID:2268312
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                                     tumor necrosis factor alpha precursor
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A;Residues: 80-85,'X',87-99 <SHE>
C;Genetics:
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C; Superfamily: tumor necrosis factor
C; Superfamily: explicing; cytokine; cytotoxin; glycoprotein; lipoprotein; lymphd
E; 1-77/Domain: propeptide #status predicted <PRO>
F; 78-234/Product: tumor necrosis factor alpha #status predicted
F; 20/Ahiding site: myristate (Lys) (covalent) #status predicted
F; 82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F; 96/Binding site: carbohydrate (Asn) (covalent) #status predicted
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Immunogenetics 35, 331-353, 199
A;Title: Sequence of the tumor necrosis factor/cachectin (TNF) gene from Peromyscus leuc
A;Reference number: 154490; MUID:92218012; PMID:1348497
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                                                                                                        R;Nash, A.D.; Barcham, G.J.; Brandon, M.R.; Andrews, A.E. Immunol. Cell Biol. 69, 273-283, 1991 A;Title: Molecular cloning, expression and characterization of ovine TNF-alpha. A;Reference number: $48118; MUID:92155784; PMID:1786996 A;Accession: $48118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tumor necrosis factor alpha precursor - white-footed mouse
C;Species: Peromyscus leucopus (white-footed mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 04-Feb-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL.X56756; NID:g297806; PIDN:CAA40076.1; PID:g297807 R;Young, A.J.; Hay, J.B.; Chan, J.Y.C. Nucleic Acids Res. 18, 6723, 1990 A;Title: Primary structure of ovine tumor necrosis factor alpha cDNA. A;Reference number: S13114; MUID:91067496; PMID:2251151 A;Accession: S13114 A;Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: mRNA
A;Residues: 1-62,64-234 <YOU>
A;Cross-references: EMBL:X55966; NID:g1403; PIDN:CAA39437.1; PID:g1404
A;Residues: 1-234 <GRE>
A;Cross-references: EMBL:X55152; NID:g1405; PIDN:CAA38952.1; PID:g1406
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C; Superfamily: tumor necrosis factor
K; Keywords: glycoprotein; lipoprotein; myristylation
F; 19,20/Binding site: myristate (Lys) (covalent) #status predicted
F; 84/Painding site: carbohydrate (Ser) (covalent) #status predicted
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Pred. No. 1.9e-08;
1; Mismatches 2; Indels
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Pred. No. 2.9e-08;
2; Mismatches 2;
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F;146-178/Disulfide bonds: #status predicted
                                                                               A; Experimental source: alveolar macrophage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              164 YQTKVNILSAIKSPCHRETLEG 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2;
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ilarity 81.8%;
Conservative
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Best Local Similarity 86.4%;
Matches 19; Conservative
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Best Local Similarity
Matches 18; Conserv
                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-234 <NAS>
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A: Residues: 1-235 <RES>
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C;Superfamily: tumor necrosis factor
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A; Residues: 1-235 <KWO>
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Best Local Similarity
Matches 17; Conserv
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                                                                                                                                                                                                                                                                                                     c;species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 04-Feb-2000
C;Accession: A25454; A25451; JS0727
R;Ito, H:; Yamamoto, S.; Kuroda, S.; Sakamoto, H.; Kajihara, J.; Kiyota, T.; Hayashi, DNA 5; 149-156, 1986
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                                                                                                Score 96; DB 1; Length 233
Pred, No. 4.2e-08;
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Pred. No. 1.3e-07;
0; Mismatches 3
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C;Species: Oryctolagus cuniculus (domes
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                                                                                                                                17; Conservative
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A;Introns: 62/3; 81/1; 97/1
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Matches 1
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A;Cross-references: GB:L00981; NID:g205253; PIDN:AAA16275.1; PID:g205254
R;Estler, H.C.; Grewe, M.; Gaussling, R.; Pavlovic, M.; Decker, K.
Biol. Chem. Hoppe-Seyler 373, 271-281, 1992
A;Titler, Rat Lumor necrosis factor-alpha. Transcription in rat Kupffer cells and in v A;Reference number: S21674; MUID:92329007; PMID:1627266
A;Accession: S21674
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R;Su, X.; Morris, D.D.; McGraw, R.A.
Gene 107, 319-321, 1991
A;Title: Cloning and characterization of gene TNF alpha encoding equine tumor necrosi A;Reference number: J01344; MUID:92084125; PMID:1748301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               necrosis factor-encoding gene
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A;Residues: 1-38, 'v.40-162,'T',164-201,'S',203-235 <EST>
A;Cross-references: GB:K6539; GB:S40199; NID:g395359; PIDN:CAA47146.1; PID:g395370
C;Comment: Tumor necrosis factor is secreted by macrophages in response to endotoxin
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C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 04-Feb-2000
C;Accession: JU0029; JN0868; S21674
Agric. Biol. Chem. 53, 1733-1736, 1989
A;Title: Cloning and expression in Escherichia coli of the gene for rat tumc A;Reference number: JU0029
A;Reference number: JU0029
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C;Species: Equus caballus (domestic horse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 04-Feb-2000
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C; Superfamily: tumor necrosis factor
C; Superfamily: tumor necrosis factor
C; Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; l; 80-235./product; tumor necrosis factor *status predicted *MAT>
F; 19.20/Binding site: myristate (Lys) (covalent) *status predicted
F; 84/Binding site: carbohydrate (Ser) (covalent) *status predicted
F; 86/Binding site: carbohydrate (Asn) (covalent) *status predicted
F; 148-179/Disulfide bonds: *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:M64087; NID:g164244; PIDN:AAA30959.1; PID:g164245 C;Comment: This protein is an important proximal mediator of endotoxemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; F; 78-234/Product: tumor necrosis factor alpha #status predicted <TUM> F; 19, 20/Binding site: myristate (Lys) (covalent) #status predicted F; 82/Binding site: carbohydrate (Ser) (covalent) #status predicted F; 146-178/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
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                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-235 <SHL>
R; Kwon, J; Chung, I.Y.; Benveniste, E.N.
Gene 132, 227-236, 1993
A; Title: Cloning and sequence analysis of the rat tumor
A; Reference number: JNO868; MUID:94040766; PMID:8224868
A; Accession: JNO868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 92; DB 2; Leg
Pred. No. 1.9e-07;
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E

ó;

Gaps

; 0

Indels

9

Pred. No. 12; 2; Mismatches

52.98;

4, 2002, 13:25:04

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66 YTLAVNILSGIEPPSQR 82
                                                                                                                                                                                                 1 YQTKVNLLSAIKSPCQR 17
      Best Local Similarity 52.9
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            December
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search completed: Decemdob time: 16.6316 secs
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C;Species: Aeropyrum pernix
C;Species: Aeropyrum pernix
C;Cate: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Aug-1999
C;Accession: B72612
R;Kawarabayasi, Y; Hino, Y; Horikawa, H; Yamazaki, S; Haikawa, Y; Jin-no, K; Takahawa, H; Takamiya, M; Masuda, S; Funahashi, T; Tanaka, T; Kudoh, Y; Yamazaki, J; R
DNA Res: 6, 83-101, 1999
A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyr
A;Reference number: A72450; MUD:99310339; PMID:10382966
A;Accession: B72512

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A.Cross-references: EMBL.ACO04681; NID:g3298532; PID:g3298547
A.Cross-references: EMBL.ACO04681; NID:g3298532; PID:g3298547
A.Kross-references: EMBL.ACO04681; NID:g3298532; PID:g3298547
A.Kross-references: EMBL.ACO04681; NID:gaser, C.D.; Fujii, C.Y.;
R:Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
R:Lin, X.; Kaul, S.; Rounsley, S.D.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L. euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J. Nature 402, 761-768, 1999
A.Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A.Reference number: A84420; MUID:20083487; PMID:10617197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: DDBJ:AP000061; NID:95104821; PIDN:BAA80352.1; PID:d1044138; PID:9510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hypothetical protein At2932590 [imported] - Arabidopsis thaliana
N;Alternate names: hypothetical protein T26B15.15
N;Alternate names: hypothetical protein T26B15.15
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 05-Mar-1999 #sequence_revision 05-Mar-1999 #text_change 02-Feb-2001
C;Accession: T02558; A84735
C;Accession: T02558; A84735
A;Reference number: Library, July 1998
A;Reference number: 214678
A;Reference number: 214678
A;Reference number: T02558
A;Ccession: T02558
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
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A;Introns: 89/3; 123/3; 163/1; 184/3; 205/1; 400/3; 449/1; 543/1; 594/3; 631/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-704 <STO>
A;Cross-references: GB:AE002093; NID:g3298547; PIDN:AAC25941.1; GSPDB:GN00139
                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                Score 84; DB 1; Length 234; Pred. No. 4e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 704;
                                                                                                                                                                                          3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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Pred. No. 25;
                                                                                                                                                                                          2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                           164 YPSKVNLLSAIKSPCHTESPE 184
                                                                                                                                                                                                                                                                                                                    1 YOTKVNLLSAIKSPCORETPE 21
                                                   73.0%;
76.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 KVNLLSAIKSPCQRETPE 21
Query Match
Best Local Similarity 76.2*
The second of the 
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Best Local Similarity
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38.3%; Score 44; 'DB 2; Length 179;

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Gencore version 5.1.3

Copyright (c) 1993 - 2002 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 4, 2002, 13:18:33; Search time 8.68421 Seconds

(without alignments)

105.073 Million cell updates/sec

Title: US-09-754-004-2

Perfect score: 115
Sequence: 1 YOTKVNLLSAIKSPCORETPEG 22

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 2000000000
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Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	P23563 sus scrofa	P51742 canis famil	nrl delphinapte		P01375 homo sapien	P79337 macaca fasc	P48094 macaca mula			capra		_	Q06599 bos taurus	435 cavia porce		P36939 peromyscus		P04924 oryctolagus		035734 marmota mon	553 equus cabal	_	P79374 trichosurus	043296 homo sapien	Q06068 strongyloce						Q66222 chinese rap	Q9qee3 ribgrass mo	
SE	Des	P23	P51	Q8wnr1	P19101	P01	P79	P48	710	P33	. P13	Q9bea1	P51	900	P51	P23	P36	P06	P04	P16	035	P2955:	770	P79	043	900	P51	P22	7gbw6Q	880	690	990	60	x60
SUMMARIES	QI	TNFA_PIG	TNFA_CANFA	TNFA_DELLE	TNFA_FELCA	TNFA_HUMAN	TNFA_MACFA	TNFA_MACMU	TNFA_PAPHU	TNFA_PAPSP	TNFA_CAPHI	TNFA_TURTR	TNFA_CEREL	TNFA_BOVIN	TNFA_CAVPO	TNFA_SHEEP	TNFA_PERLE	TNFA_MOUSE	TNFA_RABIT	TNFA_RAT	TNFA_MARMO	TNFA_HORSE	TNFA_MACEU	TNFA_TRIVU	Z264_HUMAN	HS97_STRPU	FTSY_BACSU	Y16D_BPT4	COAT_RMVCA	COAT_TVCV	RNH_ZYMMO	COAT_CRMV	COAT_RMV	TNFB_MACEU
	DB	-	Н	٦	Н	-		-		Н	1	٦	Н	П	٦	٦	П	٦	П	П	П	П	7	7	7	П	7	7	-	7	٦	П	П	П
	Length	232	233	233	233	233	233	233	233	233	234	233	229	233	234	234	235	235	235	235	233	234	233	233	627	889	329	152	156	156	156	156	156	201
ď	Query Match	100.0	100.0			100.0	100.0	100.0		٦.	93.9			٠.					•	80.0	•	•		٠.			37.8	37.4	37.4	37.4		36.5	36.5	
	Score	115	115	115	115	115	115	115	115	115	108	105	102	102	100	98	97	96	93	92	98	84	80	48	44	44	43.5	43	43	43	43	42	42	42
	Result No.	1	7	m	4	5	9	7	æ	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33

14 gallus gall			na7 agrobacteri		373 influenza b 374 influenza b
P139	099m	Q049	08uha7 062267	P367	P138 P138
ARY2_CHICK	BP28_MACFA	RON_HUMAN	RNH_AGRT5	VE2_HPV34 RRP2_INBSI	RRP2_INBAC RRP2_INBAD
					11
290	958	1400	146	345	726
36.5	36.5	36.5	35.7	35.7	35.7 35.7
4 2 4 2	4 4 2	4 4	41	41	41
34	36	800	4 4 1 4 0	4 4 3 3	44 45

ALIGNMENTS

Chordata; Craniata; Vertebrata; Euteleostomi;

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Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULFID
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ib-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; X54001; CAA379491; -

REMBL; X54859; CAA38639.1; -

REMBL; X54859; CAA46591.1; -

REMBL; AJ251914; CAB63852.1; -

REMBL; AJ25194; CAB63852.1; -

REMBL; AJ25194; CAB63852.1; -

REMBL; AJ2506; S1266.

REMBL; AJ2606; TNF_abc;

REPROSTOR: PROJECT REMBLY.

REMBL; REMORAOT: TNF, I.

REMBL; REMORAOT: TNF, I.

REMBL; REMORAOT: TNF, I.

REMBL; REMORAOT: TNF, I.

REMBL; REMBL; REMBLANCE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation. SUBGNIT: Homotrimer (By similarity). SUBCELLUIAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity). PTM: The soluble form derives from the membrane form by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                     similarity).
DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING
CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TURFA_CANFA STANDARD; PRT; 233 AA.

P51742; Q28339;
D1-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
11-JUN-2002 (Rel. 41, Last annota
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                            proteolytic processing (By similarity).
PTW: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
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                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     65B28F702D99C8BE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 2.3
Mismatches
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Matches 22; Conservative
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232
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232 AA;
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TRANSMEM
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                                                                                                                                                                                                                                                                                  CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROFEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Promise Pro1234; TNE: 1.
PRINTS, PR01234; TNECROSISFCT.
ProDom; PD002012; TNE_abc; 1.
SMART; SM00207; TNF; 1.
PROSITE; PS00251; TNF: 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Phosphorylation; Signal-anchor.
                                                                                                                                                              Zucker K., Lu P., Fuller L., Asthana D., Esquenazi V., Miller J.; "Cloning and expression of the cDNA for canine tumor necrosis factor-alpha in E. coli."; Lymphokine Res. 13:191-196(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
Carnivora; Fissipedia; Canidae; Canis
                                                                                     Fiers W., Beernaert M.;
Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EXTRACELLULAR (POTENTIAL)
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QR -> PE (IN REF. 2).
G -> C (IN REF. 2).
A -> U (IN REF. 3).
A -> D (IN REF. 2).
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EMBL: Z70046; CAA93908.1; --
HSSP: P01375; 4TSV.
InterPro; IPR003636; TNF_abc.
InterPro; IPR00478; TNF_family.
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111
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      Mammalia; Eutheria;
                                                                                                                                                     SEQUENCE FROM N.A.
                                                                 SEQUENCE FROM N.A.
                     NCBI_TaxID=9615;
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TRANSMEM
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RESULT 4
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Can. J. Vet. Res. 65:233-240(2001).

Can. J. Vet. Res. 65:233-240(2001).

-I- FUNCTION: Cytokine that binds to TNFRSFIA/TNFR1 and TNFRSFIB/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation (By similarity).

C. -- SUBUNIT: Homotrimer (By similarity).

C. -- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).

C. -- PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

C. -- PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI (By membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              an
                                                                                                 Gaps
                                                                                                                                                                                                                                                   15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor Treated superfamily member 2) (Cachectin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Glycoprotein; Phosphorylation;
Signal-anchor.
                                                                                                                                                                                                                                                                                                                                       Delphinapterus leucas (Beluga whale).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti;
                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Denis F., Archambault D.; Molecular cloning and characterization of beluga whale (Delphinapterus leucas) interleukin-lbeta and tumor necrosis
                                                                  100.0%; Score 115; DB 1; Length 233; 100.0%; Pred. No. 2.4e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                               Indels
                                       7B2588FBC8B25340 CRC64;
G -> D (IN REF. 2).
                                                                                               ..
                                                                                                                                                                                                                             233 AA.
                                                                                               0; Mismatches
                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
                                                                                                                                         163 YQTKVNLLSAIKSPCQRETPEG 184
                                                                                                                          1 YQTKVNLLSAIKSPCQRETPEG 22
                                       233 AA; 25447 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR01234; TNECROSISECT.
ProDom; PD002012; TNE_abc; 1.
SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                  Monodontidae; Delphinapterus
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                                                                                               Conservative
                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00229; TNF; 1
                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9749;
                                                                                                                                                                                                                                                                                                                                                                                                                                           PubMed=11768130;
                                                                                                                                                                                                                           TNFA_DELLE
Q8WNR1;
                                                                   Query Match
             CONFLICT
                            CONFLICT
                                       SEQUENCE
                                                                                    Best Local
                                                                                                                                                                                                            TNFA_DELLE
                                                                                               Matches
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between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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A Daniel S.L., Brenner C.A., Legendre A.M., Soloman A., Rouse B.T.;
Bubmitted (xxx-1993) to the EMBL/GenBank/DDBJ databases.
C -- FUNCTION: Cytokine that binds to TWRRSFLA_TWRR and TWRRSFLB_TWRR I is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cacheria, under certain conditions it can stimulate cell proliferation and induce cell differentiation.
C -- SUBGINIT: Homotrimer (By similarity).
C -- SUBGILUAR LOCATION Type II membrane protein. Also exists as an extracellular soluble form (By similarity).
C -- PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).
C -- PTM: The membrane form, but not the soluble form, c -- PTM: The membrane form, but not the soluble form, but not the soluble form, but not the soluble form, c -- PTM: The membrane form by binding to soluble TWRSFIA/TWFRI (By -- Assistance form courrs by binding to soluble TWRSFIA/TWFRI (By -- Assistance form courrs by binding to soluble TWRSFIA/TWFRI (By -- Assistance form courres by binding to soluble TWRSFIA/TWFRI (By -- Assistance form courres by binding to soluble TWRSFIA/TWFRI (By -- Assistance form courres by binding to soluble form the membrane form courres by binding to soluble form the membrane form courres by binding to soluble form the membrane form courres by binding to soluble form the membrane form the membrane form the membrane form the membrane form the soluble form the membrane form the membr
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                                                                                                                                                                                 EXTRACELLUIAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
                                                                           CYTOPLÀSMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1990 (Rel. 16, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor recursor (TNF-alpha) (Tumor necrosis factor Ingand superfamily member 2) (Cachectin).
TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml;
Mammalla; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-91016860; PubMed-2216740;
MCGTRW R.A., COffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;
"Gene sequence of feline tumor necrosis factor alpha.";
Nucleic Acids Res. 18:5563-5563(1990).
                                                                                                                                                                                                                                                                                                    BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL)
2DF37DCB2BC9E961 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 233;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 115; DB 1;
Pred. No. 2.4e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     233 AA
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                                                                                                                                                      (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 YQTKVNLLSAIKSPCQRETPEG 22
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                                                                                                                                                                                                                                                                                                                                                                               25420 MW;
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233
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Matches 22; Conser
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                                                                                                              TRANSMEM
                                                                                                                                                                                                                                                                                                DISULFID
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                                       CHAIN
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           [13]
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entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                               EXTRACELLUIAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
BY SIMILARITY.
BY SIMILARITY.
G -> R (IN REF. 2).
L -> H (IN REF. 2).
L -> H (IN REF. 2).
T -> A (IN REF. 2).
                                                                                                                                                                                    CYTOPLASMIC (POTENTIAL). SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=87217060; PubMed=3555974;
Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,
Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,
Chuppov S.A., Bystrov N.S., Boldyreva B.F., Chuvpilo S.A.,
Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;
Trandem arrangement of genes coding for tumor necrosis factor (INF-alpha) and lymphotoxin (TNF-beta) in the human genome.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R., Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.; "Human tumour necrosis factor: precursor structure, expression and
                                                                                                                                                       Phosphorylation; Signal-anchor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor ligand superfamily member 2) (Cachectin).
                                                                                                                                                                TUMOR NECROSIS FACTOR, MEMBRANE FORM. TUMOR NECROSIS FACTOR, SOLUBLE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                                                                                              Length 233;
                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                      Pred. No. 2.4e-11;
                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                              Score 115; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                         233 AA.
                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                          (POTENTIAL)
                           EMBL, X54000; CAA37948.1; --
FMBL, M92061; AAA30818.1; --
PIR, SI1688; S11688.
HSSP, P01375; 4TSV.
InterPro; IPR003636; TNF_abc.
InterPro; IPR00478; TNF_family.
Pfam; PF00229; TNF, 1.
PRINTS; PR01234; TNECROSISFCT.
SMART; SM00207; TNF; 1.
PROSITE; PS00201; TNF_abc; 1.
PROSITE; PS00251; TNF_1; 1.
PROSITE; PS0049; TNF_1; 1.
Cytokine; Cytotic, 17 ansmembrane; Phc CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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                                                                                                                                                                                                                                                                                                                                                                                 163 YQTKVNLLSAIKSPCQRETPEG 184
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                                                                                                                                                                                                                                                                                                           25322 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              homology to lymphotoxin.";
Nature 312:724-729(1984).
                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human)
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151
155
210
233 AA;
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
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P01375;
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TRANSMEM
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precursor in monocytic cells and in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Marmenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R., Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R., Ruysschaert M.R., van Vliet A., Fiers W.; "Molecular cloning and expression of human tumor necrosis factor and comparison with mouse tumor necrosis factor."; Eur. J. Blochem. 152:515-522(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J., van Arsdell J.N., Yamamoto R., Mark D.F.; "Molecular cloning of the complementary DNA for human tumor necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Dense Alu clustering and a potential new member of the NF kappa B family within a 90 kilobase HLA class III segment.";
Nat. Genet. 3:137-145(1993).
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"Sequence of the human major histocompatibility complex class III
                              Wallace R.B.;
of the gene for human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE-93272029; PubMed=8499947;
Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G.,
Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset
                                                                                                                                                                                                                                                   MEDILNE=86016093; PubMed=2995927;
Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,
Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;
"Human lymphotoxin and tumor necrosis factor genes: structure,
homology and ohromosomal localization.";
Nucleic Acids Res. 13:6361-6373(1985).
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Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases
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MEDLINE-85137898; PubMed=3883195;
Shirai T., Yamaguchi H., Ito H., Todd C.W.,
"Cloning and expression in Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Possik E., Duda E., Wallach D.;
"Phosphorylation of the 26 kDa TNF
pranefacted Hela cells".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. MEDLINE-85142190; PubMed=3856324;
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J. Inflamm. 45:152-160(1995).
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                                                                                                              tumour necrosis factor."
Nature 313:803-806(1985)
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MEDLINE-97186575; PubMed-9034191;
Moss M.L., Jin S.-L.C., Milla M.E., Burkhart W., Carter H.L.,
Chen W.-J., Clay W.C., Didsbury J.R., Hassler D., Hoffman C.R.,
Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G.,
Mitchell J., Moyer M., Pahel G., Rocque W., Overton L.K., Schoenen F.,
Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;
"Cloning of a disintegrin metalloproteinase that processes precursor
                Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D., Roufogalis B.D., Chaudhri G.; "A casein kinase I motif present in the cytoplasmic domain of members of the tumour necrosis factor ligand family is implicated in 'reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'Crystal structure of TNF-alpha mutant R31D with greater affinity for
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MEDLINE-99113178; Pubmed-9442056;
Cha S.S., Kim J.S., Cho H.S., Shin N.K., Jeong W., Shin H.C.,
Kim Y.J., Hahn J.H., Oh B.H.;
"High resolution crystal structure of a human tumor necrosis factor-
                                                                                                                                                                                                                                                                                                                                            Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;
"Myristyl acylation of the tumor necrosis factor alpha precursor on specific lysine residues.";
J. Exp. Med. 176:1053-1062(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X-RAY CRYSTALLOGRAPHY (2.6 ANGSTROMS).
MEDLINE-90008932. PubMed-2551905;
ECK M.J., Sprang S.R.; Pubmed P. Resolution.
"The structure of tumor necrosis factor-alpha at 2.6-A resolution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         alpha mutant with low systemic toxicity.";
J. Biol. Chem. 273:213-2160(1999).
J. Biol. Chem. 273:213-2160(1999).
T. FUNCTION: Cytokine that binds to TNFRSFIA/TNFR1 and
TNFRSFIB/TNFBR. It is mainly secreted by macrophages and can
induce cell death of certain tumor cell lines. It is potent
pyrogen causing fever by direct action or by stimulation of
interleukin I secretion and is implicated in the induction of
                                                                                                                                                                           MEDIANE=91184128; PubMed=2009860; Ostade X.V., Tavernier J., Prange T., Fiers W.; Localization of the active site of human tumour necrosis factor (hTNF) by mutational analysis."; EMBO J. 10:827-836(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -- implications for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Reed C., Fu 2.Q., Wu J., Xue Y.N., Harrison R.W., Chen M.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS) OF MUTANT ARG-107
MEDLINE-98147459; Pubmed-9488135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDINE-91193276; Pubmed-1964681;
Jones E.Y., Stuart D.I., Walker N.P.;
"The structure of tumour necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
MEDILNE-89159409; Pubmed-2922050;
JONES E.Y., Stuart D.I., Walker N.P.;
"Structure of tumour necrosis factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Implications for receptor binding.";
J. Biol. Chem. 264:17595-17605(1989).
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MEDLINE-93018820; PubMed-1402651;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tumour-necrosis factor-alpha.";
Nature 385:733-736(1997).
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                                                                                                   signalling'.";
EMBO J. 18:2119-2126(1999)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      biological function."
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLEAVAGE BY ADAM17.
PubMed-10205166;
                                                                                                                                                                 MUTAGENESIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --- FUNCTION: Cytchine that binds to TWRRSTA/TWRR1 and Can the pyrogen causing fever by direct action or by stimulation of interleukin I secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.
--- SUBGURT: Homotrimer (By similarity).
--- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form derives from the membrane form by
                                                                    ALSO EXISTS AS AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH AND MALNUTRITION.
                                                                                                                                                                                                                                  BY GENERAL ILL HEALTH
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                                                                                                                         PROTEOLYTIC PROCESSING.

PTM: The membrane form, but not the soluble form, is phosphorylation of the phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TARRESFIA/TARRI. DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOUNT ZUUZ (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor Ilgand superfamily member 2) (Cachectin).
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-!- PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI (By
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                                                                                                                                                                                                                                                                           SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 233;
                                                                                                          -!- PTM: THE SOLUBLE FORM DERIVES FROM THE MEMBRANE FORM BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
                                                                  SUBCELLULAR LOCATION: TYPE II MEMBRANE PROTEIN.
                           proliferation and induce cell differentiation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 115; DB 1;
100.0%; Pred. No. 2.4e-11;
ive 0; Mismatches 0;
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cachexia, Under certain conditions it
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                                                                                     EXTRACELLULAR SOLUBLE
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                                               SUBUNIT: Homotrimer.
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Best Local Similarity
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TISSUE-Lymphocytes;
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P79337;
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                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its mack by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
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R HASP: P01375; 4TSV.
R InterPro; IPR003636; TNF_abc.
R InterPro; IPR00478; TNF_family.
DR Pfam; PF002029; TNF: 1.
DR PRINTS; PR01234; TNFEADS; 1.
DR PRODOCO: PROSECTION: Transmembrane; Phosphorylation: Signal-anchor.
NW Cytokine; Cytotoxin; Transmembrane; Phosphorylation: Signal-anchor.
TOWNOR NECROSIS FACTOR, MEMBRANE FORM.
THOMAN NECROSIS FACTOR, SOLUBLE FORM.
THOMAN NECROSIS PACTOR.
THOMAN NECROSIS FACTOR.
THOMAN NECROSIS FACTOR.
THOMAN TABLES FORM.
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CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J. Immunol. 155:3946-3954(1995).

-!- FUNCTION: CYLOKine that binds to TNFRSFIA/TNFRI and TNFRSFIB/TNFRI. To it is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of achexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

-!- SUBGUIT Homotrimer (By similarity).

-: SUBGUILUMAR LOCATION: Type II membrane protein. Also exists as extracellular soluble form (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-FD-10N-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor TNF OR TNFSF2 OR TNFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. MEDLINE-9603435; PubMed-7561102; WEDLINE-9603435; PubMed-7561102; Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.; "Comparative sequence analysis of cytokine genes from human and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 233;
-!- SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6ABF2C3AB132C217 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 115; DB 1;
Pred. No. 2.4e-11;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    233 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Macaca mulatta (Rhesus macaque).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  163 YQTKVNLLSAIKSPCQRETPEG 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25558 MW;
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100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                233 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nonhuman primates.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOD_RES
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                             DISBASE: ČÁCHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSTIE: PRO0207; TNF: 1.
PROSTIE: PS00251; TNF: 1.
PROSTIE: PS50049; TNF: 1.
PROSTIE: PS50049; TNF: 2: 1.
Cytckine: Cytctoxin; Transmembrane; Phosphorylation; Signal-anchor. 23: TUMOR NECROSIS FACTOR, MEMBRANE FORM. TUMOR NECROSIS FACTOR, SOLUBLE FORM. TUMOR NECROSIS FACTOR, SOLUBLE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-UN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor precursor (TNF-alpha) (Tumor nerrosis factor TNF-Alpha) (Tumor nerrosis factor TNF-Alpha) (Tumor nerrosis factor TNF OR TNFSF2 OR TNFA.
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MEDLINE: 99147379; PubMed-9488055;
Haudek S.B., Redl H., Schlag G., Giroir B.P.;
"Complementary DNA (cDNA) 'sequence of baboon tumor necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Papio hamadryas ursinus (Chacma baboon).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 115; DB 1; Length 233; 100.0%; Pred. No. 2.4e-11;
                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
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Mol. Immunol. 34:1041-1042(1997).
-!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY.
9F6F85050595FD59 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00229; TNF; 1.
PRINTS; PR01234; TNECROSISFCT.
ProDom; PD002012; TNF_abc; 1.
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                                                                                                                                                                                                                                                               AND MALNUTRITION.
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233 AA;
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Best Local Similarity
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                                                                                                                                                                            similarity).
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NCBI_TaxID=61183;
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LIPID
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DOMAIN
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TNFA_CAPHI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@libersib.ch).
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CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
                                                                                                                                                                                                                                       an
TWFRSFIB/TWFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

-1. SUBGURIT: HOMOCIMEN (By similarity).

-1. SUBGELIULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).

-1. PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

-1. PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TWFRFIA/TWFRI (By membrane form courrs by binding to soluble TWFRFIA/TWFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE: PS00251; TNF.1:
PROSITE: PS0049; TNF_1: 1.
PROSITE: PS50049; TNF_2: 1.
PROSITE: PST TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
PROSITE: PST TUMOR NECROSIS FACTOR, SOLUBLE FORM.
TOWNS TO THE PST TO THE
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01-FEB-1994 (Rel. 28, Last sequence update)
11-FUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor TNF-Alpha) (Tumor necrosis factor TNF-Alpha) (Tumor necrosis factor TNF-Alpha) (Tumor necrosis factor TNF-Alpha) (Tumor necrosis factor TNF-Alpha)
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B9403255058D4A03 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (POTENTIAL)
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InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS: PRO1234; TNECROSISECT.
ProDom: PD002012; TNF_abc; 1.
SMART; SM00207; TNF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AF019963; AAC31675.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25658 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00229; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cercopithecinae; Papio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND MALNUTRITION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          145 1
233 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
nes 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                    similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TNFA_PAPSP
P33620;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOD_RES
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TNFA_PAPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
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                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration
          EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
HOSPHORYALATION (BY CKI) (BY SIMILARITY).
MYRISTATE (BY SIMILARITY).
MYRISTATE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
STYPOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Phosphorylation; Signal-anchor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 233;
                                                                                                                                                                                                                                                                                                                                                                         similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       455360B48DC74173 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. 2.4e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 115; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TWEA_CAPHI STANDARD; PRT; 234 AA. P13296; Q28320; Q9MYZ2; 01-JMN-1990 (Rel. 13, Created) 15-JWN-2002 (Rel. 41, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; X62141; CAA44068.1; -.
PIR; S22052; S22052.
HSSP; PQ1375; 1ABC.
InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
PRINTS; PR01234; TNFCROSISFCT.
PRODOM; PD002012; TNF_abc; 1.
SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       163 YQTKVNLLSAIKSPCQRETPEG 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25557 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sest Local Similarity
SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (JAN-1994) to the EMBL/GenBank/DDBJ databases.

-!-FUNCTION: Cytokine that binds to TNFRSFIA/TNFRI and
TNFRSFIB/TNFBR. It is mainly secreted by macrophages and can
induce cell death of certain tumor cell lines. It is potent
pyrogen causing fever by direct action or by stimulation of
interleukin 1 secretion and is implicated in the induction of
cachexia, Under certain conditions it can stimulate cell
proliferation and induce cell differentiation.

-!-SUBUNIT: Homotrimer (By similarity).

-:-SUBCELLUIAR LOCATION: Type II membrane protein. Also exists as an
extracellular soluble form (By similarity).

-:-PTM: The soluble form derives from the membrane form by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING
                                                                                                                                                                                                            Takakura H., Mori Y., Tatsumi M.; "Molecular cloning of caprine TNF-alpha cDNA and its expression in E.coli and insect cells.";
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
              ligand superfamily member 2) (Cachectin).
TWF OR TWEST2 OR TWFA.
Captra hirous (Goat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proteclytic processing (By similarity).

PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form courrs by binding to soluble TNFRSFIA/TNFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY. CAUTION: Ref.2 sequence differs from that shown due to a frameshift in position 60.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Wang B., Zhang Y.; "Goat ovarian TNF alpha cDNA sequence."; Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                         Goldstein I.M., Henner D., Talhouk A.;
Submitted (MAR-1989) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                Submitted (JUL-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X14828; CAA32937.1; ALT_FRAME.
EMBL; AF276985; AAF87741.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom; PD002012; TNF_abc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; X77317; CAA54523.1; -. PIR; S06192; S06192.
HSSP; P01375; 4TSV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; D86587; BAA13130.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 44-234 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 75-234 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00251; TNF_1; 1.
                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 41-234 FROM N.A.
                                                                                                                      3ovidae; Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Ovarian follicle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AND MALNUTRITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SM00207; TNF;
                                                                                                                                                                                                    rissum=Splenocyte;
                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                           NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Blood;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rimstad E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMART;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RT Shoji Y., Inoue Y., Sugisawa H., Itou T., Endo T., Sakai T.;

Ry Molecular choning and functional characterization of bottlenose
RT dolphin (Tursiops truncatus) tumor necrosis factor alpha.";

RL Ver Immunopathol. 82:183-192(2001).

RE VET Immunopathol. 82:183-192(2001).

CO -1- FUNCTION: Cytokine that binds to PURREFIA-TNFR1 and
TNFRSFIB/TNFBR. It is mainly secreted by macrophages and can
induce cell death of certain tumor cell lines. It is potent
pyrogen causing fever by direct action or by stimulation of
cochexia, Under certain conditions it can stimulate cell
cachexia, Under certain conditions it can stimulate cell
cochexia, Under certain conditions it can stimulate cell
cochexia, Under certain conditions it can stimulate cell
cochexia, Under certain differentiation (By similarity).

C. :- SUBGNUT: Homorrimer (By similarity).

C. :- SUBCILULAR LOCATION: Type II membrane protein. Also exists as an
extracellular soluble form (By similarity).

C. :- PTM: The soluble form derives from the membrane form by
proteclytic processing (By similarity).

C. :- PTM: The membrane form, but not the soluble form by
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tursiops truncatus (Atlantic bottle-nosed dolphin).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Delphinidae;
                                                                                                                                               SIMILARITY).
                                                                                   SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                         PHOSPHORYLATION (BY CK1) (BY SIMILARITY)
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
BY SIMILARITY.
N-LINKED (GLCNAC. .) (POTENTIAL).
R -> S (IN REF. 4).
E -> A (IN REF. 4).
T -> N (IN REF. 4).
T -> N (IN REF. 4).
Y -> D (IN REF. 4).
E -> EG (IN REF. 4).
C -> L (IN REF. 4).
MISSING (IN REF. 4).
O -> L (IN REF. 2).
O -> L (IN REF. 2).
O -> L (IN REF. 2).
O -> L (IN REF. 3 AND 4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2003 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
11gand superfamily member 2) (Cachectin).
TNF OR TNFSF2 OR TNFA.
             Transmembrane; Phosphorylation; Signal-anchor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble INFRSFIA/INFRI (By
                           TUMOR NECROSIS FACTOR, MEMBRANE FORM TUMOR NECROSIS FACTOR, SOLUBLE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                               93.9%; Score 108; DB 1; Length 234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Indels
                                                                                                                         EXTRACELLULAR (POTENTIAL)
                                                                 CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                   3.2e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            233 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. 3.26
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  164 YQTKVNILSAIKSPCHRETPEG 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22
                                                                                                                                                                                                                                                                                                                                                                             25519 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                     90.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 YQTKVNLLSAIKSPCQRETPEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                         20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                               79
178
96
79
119
129
155
164
184
                               234
234
35
56
                                                                                                                         233
                 Cytokine; Cytotoxin;
                                                                                                                                                                                                                                                                                                                                                                               234 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=11587733;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9739;
                                                                                       36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TNFA_TURTR
                                                                                                                                                                                                                                                                                                                    CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                              CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                         TRANSMEM
                                                                                                                                                                                DISULFID
                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                      CONFLICT
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                          CONFLICT
                                                                                                                                                                                                                                            CONFLICT
                                                                                                                                               MOD_RES
SITE
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                                                                       DOMAIN
                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TNFA_TURTR
                                                       CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -1- SUBUNIT: Homotrimer (By similarity).
-1- SUBCELLULAR LOCATION: TYPE II MEMBRANE PROTEIN. ALSO EXISTS AS AN EXTRACELLULAR SOLUBLE FORM (BY SIMILARITY).
-1- PTM: THE SOLUBLE FORM DERIVES FROM THE MEMBRANE FORM BY PROFEDLYTT C PROCESSING (BY SIMILARITY).
-1- DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
                                                                                                                                                                                                                                                                                                               EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
                                                                                                                                                                                                                                             TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;
Cervidae; Cervinae; Cervus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-0CT-1996 (Rel. 34, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor Ingand superfamily member 2) (Cachectin) (Fragment).
TNF OR TNFSF2 OR INFA.
                                                                                                                                                                                   PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Glycoprotein; Phosphorylation; Signal-anchor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -LINKED (GLCNAC. . .) (POTENTIAL). 71CC39C699CC49D9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                             Length 233;
                                                                                                                                                                                                                                                                                                                                                                                              Score 105; DB 1; Length 25.
Pred. No. 9 8e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               229 AA.
                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY.
                                                                                                                                                                                                                                                                                                    (POTENTIAL)
                                                                                          HSSP; P01375; 4TSV.
InterPrc; IPR003636; TNF_abc.
InterPrc; IPR004048; TNF_family.
Pfam; PF00229; TNF; 1.
PRINTS; PR01234; TNECROSISFCT.
ProDom; PD002012; TNF_abc; 1.
SMART; SM00207; TNF, 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-1996 (Rel. 34, Created)
                                                                                EMBL; AB049358; BAB39855.1; -.
                                                                                                                                                                                                                                                                                                                                                                     95 N
25404 MW;
                                                                                                                                                                                                                                                                                                                                                                                                           91.3%;
90.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cervus elaphus (Red deer).
                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
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233
35
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78
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177
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es 20; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TNFA_CEREL
P51743;
                                                                                                                                                                                                                                                                                                                                                        DISULFID
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                         DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
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                                                                                                                                                                                                                                                                                                                DOMAIN
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUN-2002 (Rel. 29, Last sequence update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor ligand superfamily member 2) (Cachectin).
TNF OR TNFSF2 OR TNFA.
Bos taming "TNFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos
                                                                                                                                                                                                                                                                                                                                                                                             EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                      TUMOR NECROSIS FACTOR, MEMBRANE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIINE-94083525; PubMed-8260599; Cludts I., Cleuter Y., Kettmann R., Burny A., Droogmans L.; "Cloning and characterization of the tandemly arranged bovine Imphotoxin and runnur necrosis factor-alpha genes."; Cytokine 5:336-341(1993).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 102; DB 1; Length 229;
Pred. No. 3e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Bovine TNF-alpha gene.";
Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                             16DE5F7AA5A7DB35 CRC64;
                                                                                                                                                               HSSP; P01375; 4TSV.

InterPro; IPR003636; TNF_abc.

InterPro; IPR00048; TNF_family.

Probom; P0002012; TNF; 1.

Probom; P0002012; TNF, 1.

PROSITE; PS00251; TNF, 1.

PROSITE; PS00451; TNF_1, 1.

PROSITE; PS0049; TNF_2, 1.

CYtokine; Cytotoxin; Transmembrane; Signal-anchor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Blood;
MEDLINE=96006582; PubMed=7590981;
Mertens B.E.L.C., Muriuki M., Gaidulis L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159 YQTKVNILSAIKSPCHRETPE 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TNEA_BOVIN STANDARD; F 006599; 018779; 01-JUN-1994 (Rel. 29, Last sequing-JUN-1994 (Rel. 29, Last sequing-JUN-2002 (Rel. 41, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                             24987 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88.7%;
90.5%;
                                                                                                                                                    EMBL; U14683; AAA50759.1; -.
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STRAIN-Boran, and N'Dama;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                           229 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
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                                                                                                                                                                                                                                                                                                                        374
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TRANSMEM
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CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
15-UN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor ligand superfamily member 2) (Cachectin).
   THE HELE IN A PRESENCE OF COURSE OF THE FERRING SECOND OF THE FERR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation-the European Bloinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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R EMBL; AF011926; AAB84086.1; -.

R EMBL; Z4611927; AAB84087.1; -.

R EMBL; Z4642; S24642.

R PIR; S24642; S24642.

R PIR; S24642; S24642.

R InterPro; IPR00356; TNF_family.

R InterPro; IPR00201; TNF_family.

R Pfam; PF00229; TNF; 1.

R PRODOM; PB002012; TNF_abc; 1.

R PROSTIE; PS00201; TNF_1: 1.

R PROSTIE; PS0049; TNF_1: 1.

R PROSTIE; PS0049; TNF_1: 1.

R PCSTIE; PS0049; TNF_2: 1.

R PCSTIE; PS0049; TNF_2: 1.

R PCSTIE; PS0049; TNF_2: 1.
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PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
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SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                              an
of two members of the TNF-superfamily in cattle: CD40 ligand
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
                                                                                                                                                                                                                                                                     proliferation and induce cell differentiation.
--- SUBGNIT: Homotrimer (By similarity).
--- SUBGLULAR LOCATION: Type II membrane protein. Also exists as extracellular soluble form (By similarity).
--- PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).
--- PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TUMOR NECROSIS FACTOR, MEMBRANE FORM. TUMOR NECROSIS FACTOR, SOLUBLE FORM.
                                                      Immunogenetics 42:430-431(1995).
-!- FUNCTION: CYTCAINE that binds to TNFRSFIA/TNFR1 and
TNFRSFIB/TNFBR. It is mainly secreted by macrophages and can
induce cell death of certain tumor cell lines. It is potent
pyrogen causing fever by direct action or by stimulation of
interleukin 1 secretion and is implicated in the induction of
cachexia, Under certain conditions it can stimulate cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
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E -> EQ (IN REF. 3).
8AF55C002A9763B0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EXTRACELLULAR (POTENTIAL).
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                                   and tumor necrosis factor alpha.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88.7%;
90.5%;
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TRANSMEM
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DISULFID
VARIANT
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      "Cloning
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   SOURCE STATES ST
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234 AA.

PRT;

STANDARD;

RESULT 14 TNFA_CAYPO ID TNFA_CAVPO

163 YQTKVNILSAIKSPCHRETPE 183

a δλ

1 YQTKVNLLSAIKSPCQRETPE 21

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor alpha.";

Am. J. Physiol. 273:1254-L530(1997).

-!-PUNCTION: Cytokine that binds to TNFRSFIA/TNFR1 and TNFRSFIB/TNFRB.";

-!-PUNCTION: Cytokine that binds to TNFRSFIA/TNFR1 and Induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin i secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

-!-SUBJUIT: HOMOCITION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).

-!-PTM: The soluble form (By similarity).

-!-PTM: The soluble form (By similarity).

-!-PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form currs by binding to soluble TNFRSFIA/TNFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY ADAM17) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-97462215; PubMed-9316485;
White A.M., Yoshimura T., Smith A.W., Westwick J., Watson M.L.;
"Airway inflammation induced by recombinant guinea pig tumor necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
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PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Phosphorylation; Signal-anchor.
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TUMOR NECROSIS FACTOR, SOLUBLE FORM.
Cavia porcellus (Guinea pig).
Eukaryota, Metazoa, Chordata, Craniata; Vertebrata, Euteleostomi,
Mammalia; Eutheria; Rodentia; Hystricognathi, Caviidae, Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -! - SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                  SEQUENCE FROM N.A. STRAIN-Hartley, TISSUE-Lung; Vuan H.T. Kelly F.J. Bingle C.D.; Suan H.T. Kelly F.J. Bingle C.D.; Submitted (NOV-1995) to the EMBL/GenBank/DDBJ databases.
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EMBL; U77036; AAB19210.1; -.
HSSP; P06804; ZTMF.
InterPro; IPR003636; TMF_abc.
InterPro; IPR00478; TMF_family.
Pfam; PF00229; TWF; 1.
PRINTS; PR01234; TNECROSISFCT.
PRODOM; PD002012; TNF; 1.
SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               234
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                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-Dunkin-Hartley;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND MALNUTRITION.
                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                      NCBI_TaxID=10141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity)
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunol. Cell Biol. 69:273-283(1991).

-I-FUNCTION: Cytokine that binds to TNFRSFIA/TNFR1 and TNFRSFIB/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

-I-SUBUNIT: Homotrimer (By similarity).

-I-SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).
                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISEASE: CACHEXIA ACCOMPANIES A VARIETY OF DISEASES, INCLUDING CANCER AND INFECTION, AND IS CHARACTERIZED BY GENERAL ILL HEALTH
                                                                                                                                                                                                                                                                                                          01-FEB-1994 (Rel. 28, Last Sequence update)
15-UN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
ligand superfamily member 2) (Cachectin).
TNF OR TNFSF2 OR TNFA.
                                                                                                                                                                                                                                                                                                                                                                                                   Ovis aries (Sheep).
Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinee; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proteolytic processing (By similarity).
PTM: The membrane form, but not the Soluble form, is
phosphorylated on serine residues. Dephosphorylation of the
membrane form ocurrs by binding to soluble TNFRSFIA/TNFRI (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Green I.R., Sargan D.R.;
Sagence of the CDNA encoding ovine tumor necrosis factor-alpha:
problems with cloning by inverse PCR.";
Gene 109:203-210(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDILINE-2015/5784; Pubmed-1786996;
Andrews A.E., Nash A.D., Barcham G.J., Brandon M.R.;
"Molecular cloning, expression and characterization of ovine TNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Young A.J., Hay J.B., Chan J.Y.C.; "Primary structure of ovine tumor necrosis factor alpha cDNA."; Nucleic Acids Res. 18:6723-6723(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                        Length 234;
                                                    Score 100; DB 1; Length 23 Pred. No. 6.4e-09; 1; Mismatches 2; Indels
 BY SIMILARITY.
7272C940393E7E9B CRC64;
                                                                                                                                                                                                                                                       234 AA.
                                                                                                                                                                                                                                                  PRT;
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MEDLINE-91067496; PubMed-2251151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE-Alveolar macrophage;
MEDLINE-92112044; PubMed-1765267;
                                                                                                                                            164 YPEKVNLLSAIKSPCQKETPEG 185
                                                                                                                           1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                       01-NOV-1991 (Rel. 20, Created)
                  25793 MW;
                                                    87.0%;
86.4%;
                                                                                            Conservative
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147 1
234 AA;
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Best Local Similarity
Matches 19; Conserv
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P23383;
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Search completed: December 4, 2002, 13:23:02 Job time : 9.68421 secs

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use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                    CLEAVAGE (BY ADAMI7) (BY SIMILARITY).
PHOSPHORYLATION (BY CK1) (BY SIMILARITY).
BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL).
MISSING (IN REF. 1).
                                                                                                                                                                                                                                                                                                                     TUMOR NECROSIS FACTOR, MEMBRANE FORM.
TUMOR NECROSIS FACTOR, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
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                                                                                                                                                                                                                                                SMART; SM00207; TNF; 1.
PROSITE: PS00201; TNF_1; 1.
PROSITE: PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Glycoprotein; Phosphorylation;
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No. 1.3e-08;
2; Indels
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EXTRACELLULAR (POTENTIAL).
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4BCF8CCAB7956B88 CRC64;
                                                               EMBL, X55966; CAA39437.1; -.
EMBL, X55152; CAA88952.1; -.
EMBL, X56756; CAA40076.1; -.
EMBL, A19163; CAA01445.1; -.
PIR, S13114; S13114.
PIR, S20661; S20661.
PIR, JH0529, JH0529.
HSSP, POU375; 4TSV.
InterPro; IPR00478; TNE_abc.
InterPro; IPR00478; TNE_family.
Pfam; PP00229; TNF; 1.
PRINTS; PR01234; TNECROSISFCT.
PPCDOm; PD002012; TNF_abc; 1.
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25536 MW;
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86.4%;
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                                                          December 4, 2002, 13:20:58; Search time 28.9474 Seconds
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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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sp_rodent:*
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ALIGNMENTS

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Gaps
           09P102;
01-OCT-2000 (TEXBELE1. 15, Created)
01-OCT-2000 (TEXBELE1. 15, Last sequence update)
01-DCC-2001 (TEXBELE1. 19, Last annotation update)
APC1 protein (Fragment).
APC1 protein (Fragment).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                            ;
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                                                                                                                                                                             Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.; Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases. EMBL, AF09751; AAF71992.1; ...
InterPro; IPR003636; TNF_abc.
InterPro; IPR00478; TNF_family.
Pfam; PF00229; TNF_family.
ProDom; PD0022012; TNF_abc; 1.
PROSITE; PS50049; TNF_2: 1.
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100.0%; Pred. No. 1.6e-12;
iive 0; Mismatches 0;
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 PRT;
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PRELIMINARY;
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TISSUE-PROSTATE TUMOR;
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15 YQTKVNLLSAIKSPCQRETPEG 36 a

1 YQTKVNLLSAIKSPCQRETPEG 22

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~ RESULT 097543

Q9erg6 peromyscus Q9bec4 talpa europ

Q9BEE8 Q9ERG6 Q9BEC4

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PRT;
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SEQUENCE FROM N.A.
ECHOWERTY S.J., Hernandez E., Moreno A., Patarroyo M.E., Murillo L.A.;
ECHOWERTY S.J., Hernandez E., Moreno A., Patarroyo M.E., Murillo L.A.;
"Identification, cloning and sequencing of different interleukin genes
in 4 Aotus species.";
Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
EMBL, AF014513; AAD01539.1;
HSSP; P01375; 4TSV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P. SQUENCE FROM N.A.

A van Dijk M.A.M., de Jong W.W.;

Tundels indicate that rodents are monophyletic and lagomorphs are their sister group.";

Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AJ286827; CAC28513.1;

REMBL, SPRO0229; TNF. 1.

Pfam: PF00229; TNF: 1.

PROSITE; PS002012; TNF: 1.

PROSITE; PS00251; TNF: 1.

PROSITE; PS00251; TNF: 1.

PROSITE; PS0049; TNF. 2.

PROSITE; PS0049; TNF. 2.

PROSITE; PS0049; TNF. 2.

PROSITE; PS0049; TNF. 2.
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                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Platyrrhini, Cebidae, Aotinae, Aotus.
NCBI_TaxID=37293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bradypus tridactylus (Pale-throated three-toed sloth).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Edentata; Bradypodidae; Bradypus.
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01-UUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                   Last sequence update)
Last annotation update)
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100.0%; Pred. No. 3.7e-12;
ive 0; Mismatches 0;
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149 AA
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                                                                                                              Tumor necrosis factor alpha (Fragment).
TNF-ALPHA.
                                               Created)
PRT;
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InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
PRINTS; PR01234; TNECROSISECT.
ProDom; PD002012; TNF_abc; 1.
SNART; SM00207; TNF; 1.
PROSITE; PS00251; TNF_1: 1.
PROSITE; PS0049; TNF_2; 1.
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                                                                                                                                                                  Actus nancymaae (Owl monkey).
                      097543;
01-MAY-1999 (TrEMBLrel. 10,
01-MAY-1999 (TrEMBLrel. 10,
01-OCT-2001 (TrEMBLrel. 18,
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PRELIMINARY;
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NON_TER 217
SEQUENCE 217 AA;
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The sister of group."

Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.

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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
A. de Jong W.W.;
van Dijk M.A.M., de Jong W.W.;
"Indels indicate that rodents are monophyletic and lagomorphs are their sister group.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ266829; CAC28518.1; -.
HSSP; P01375; 4TSV.
InterPro; IPR003636; TNF_abc.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Edentata; Dasypodidae; Cabassous.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cyclopes didactylus (silky anteater).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Edentata; Myrmecophagidae; Cyclopes.
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Length 217;
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217 AA; 23753 MW; F760E887F6C29EBB CRC64;
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01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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100.0%; Pred. No. 5.5e-12;
tive 0; Mismatches 0;
100.0%; Score 115; DB 6;
100.0%; Pred. No. 5.5e-12;
iive 0; Mismatches 0;
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MEDLINE-99272029; PubMed-8499947;
Iris F., Bougueleret L., Prieur S., Caterina D., Primas G., Perrot V.,
Jurka J., Rodriguez-Tome P., Claverie J., Cohen D., Dausset J.;
"Dense Alu clustering and a potential new member of the NFkappaB
family within a 90 kilobase HLA class III segment.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D., Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.; "Human lymphotoxin and tumor necrosis factor genes: structure, homology and chromosomal localization."; Nucleic Acids Res. 13:6361-6373(1985).
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                                                                                                                                               Gaps
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"Allograft inflammanory factory-1. A cytokine-responsive macrophage
moolecule expressed in transplanted human hearts.";
Transplantation 61:1387-1392(1996).
                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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MEDLINE=93208881; PubMed=7916655;
MEDLINE=93208881; PubMed=7916655;
MEDLINE=93208881; PubMed A., Lawton P., DeMarinis J., Tizard R., Chow E.P., Hession C., O'Brine-Creco B., Foley S.F., Ware C.F.;
"Lymphotoxin-beta: A new member of the TNF family that forms a heteromeric complex with lymphotoxin on the cell surface.";
Cell 72:847-856(1993).
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                                                                                                                         Length 217;
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Holzinger I., de Baey A., Messer G., Kick G., Zwierzina H.,
                                                                                                                                               Indels
                                                                                                   83C591DD6883FD86 CRC64;
                                                                                                                                                                                                                                                                       (TrEMBLrel. 13, Created)
(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 19, Last annotation update)
                                                                                                                       100.0%; Score 115; DB 6;
100.0%; Pred. No. 5.5e-12;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                232 AA
                                                                                                                                              0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TNF region.";
Immunogenetics 42:315-322(1995).
       Pfan; PF00229; TNF; 1.
PRINTS; PR01244; TNECROSISFCT.
ProDom; PD02012; TNF_abc; 1.
SMART; SM00207; TNF; 1.
PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_1; 1.
                                                                                                                                                                                155 YQTKVNLLSAIKSPCQRETPEG 176
InterPro; IPR000478; TNF_family
                                                                                                                                                                   1 YOTKVNLLSAIKSPCORETPEG 22
                                                                                                  23742 MW;
                                                                                                                                  Local Similarity 100.
nes 22; Conservative
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                                                                                                   217 AA;
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SEQUENCE
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MEDINE-95324911; PubMed-7601445; Peelman L., Chardon P., Nunes M., Renard C., Geffrotin C., Vaiman M., Van Zeveren A., Coppieters W., Van de Weghe A., Bouquet Y., Choy W., Strominger J., Spies T.; The M.C Encodes an Evolutionarily Conserved Putative Nuclear RNA Helicase of the D-E-A-D Family.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sugawara C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Characterization of a novel gene in the human major histocompatibility complex that encodes a potential new member of the I kappa B family of proteins"; I kappa B family of proteins"; Hum. Mol. Genet. 3:793-79(1994).
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                    MEDITE-91086846; PubMed-1670638; Messer G., Spengler U., Jung M.C., Honold G., Bloemer K., Pape G.R., Riethmeeller G., Weiss E.H.; Polymorphic Gructure of the Tumor Necrosis Factor (TNF) Locus: An Ncol Polymorphism in the First Intron of the Human TNF-beta Gene Correlates with A Variant Amino Acid in Position 26 and a Reduced Level of TNF-beta Production."; J. Exp. Med. 173:209-219(1991).
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Shiina T., Tamiya G., Oka A., Yamagata T., Yamagata N., Kikkawa E.
Goto K., Mizuki N., Watanabe K., Fukuzumi Y., Taguchi S., Sugawara
Ono A., Chen L., Yamazaki M., Tashiro H., Ando A., Ikemura T.,
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                                                                                                                                                                                                                                                                                                                                                                MEDLINE-91139175; PubMed-1671667; Abraham L.J., Whitehead A.S.; Abraham L.J., Du D.C., Zahedi K., Dawkins R.L., Whitehead A.S.; Haplotypic polymorphisms of the TNFB gene."; Immunogenetics 33:50-53(1991).
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MEDLINE-20132445; PubMed-10668961;
Neville M.J., Campbell R.D.;
"Alternative splicing of the LST-1 gene located in the major histocompatibility complex on human chromosome 6.";
DNA Seq. 8:155-160(1997).
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Pred. No. 5.9e-12;
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InterPro; IPR000478; TNE_family.
Pfam; PF00229; TNF; 1.
PRINTS; PR01234; TNECROSISECT.
ProDom; PD002012; TNF_abc; 1.
SNART; SM00207; TNF; 1.
PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_1; 1.
SEQUENCE 232 AA; 25446 MW; E4D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE-94362679; Pubmed-8081366;
Albertella M.R., Campbell D.R.;
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100.0%;
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Gaps

0;

Length 138;

Score 105; DB 6; Length 13 Pred. No. 1.9e-10; 0; Mismatches 2; Indels

91.3%; 90.9%;

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138 AA; 15269 MW; 29275EE4F4CD5068 CRC64;
PROSITE; PS00251; TNF_1; 1. PROSITE; PS50049; TNF_2; 1.
                                                        Query Match
Best Local Similarity 90.9 Matches 20; Conservative
                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=57176;
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NON_TER
SEQUENCE
                        NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                        TNF-ALPHA
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097538
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  Gaps
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Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Aotinae; Aotus.
                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match 95.7%; Score 110; DB 4; Length 157; Local Similarity 95.5%; Pred. No. 2.9e-11; les 21; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A., Patarroyo M.E., "Acture lemurius gene for TNF alpha."; "Acture lemurius gene for the EMBL/GenBank/DDBJ databases. Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
  Indels
                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
Jang J.S., Kim B.E.;
Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF043342; AAC03542.1; -.
HSSP; P01375; 1A8M.
                                                                                                                                                                                                                                                                                                                                                                                                                                 157 AA; 17380 MW; D1344822267E9F20 CRC64;
                                                                                                                                                 Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
  ;
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                                                                                                              157 AA
 Mismatches
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01-MAY-2000 (TrEMBLrel. 13, Last sequen
01-CCT-2001 (TrEMBLrel. 18, Last annota
Tumor necrosis factor alpha (Fragment).
                                                                                                                                                                       Tumor necrosis factor alpha (Fragment).
                                                                                                                                      Created)
                                                                                                              PRT;
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HSSP; P01375; 4TSV.
InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
PRINTS; PR01234; TNECROSISFCT.
ProDom; PD002012; TNF_abc; 1.
SMART; SMA0207; TNF; 1.
                                                                                                                                                                                                                                                                                                                     InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
Pfam; PP00229; TNF; 1.
PRINTS; PR01234; TNECROSISECT.
ProDom; PD002012; TNF_abc; 1.
SNART; SN00207; TNF; 1.
PROSITE; PS00251; TNF_1: 1.
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0
                         1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                           043647 PRELIMINARY;
043647;
01-JUN-1998 (TrEMBLrel. 06,
01-JUN-1998 (TrEMBLrel. 06,
01-DC-2001 (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
  Conservative
                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=43147;
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SEQUENCE
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   Matches
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Echevarry S.J., Hernandez E., Moreno A., Patarroyo M.E., Murillo L.A.;

Echevarry S.J., Hernandez E., Moreno A., Patarroyo M.E., Murillo L.A.;

"Identification, cloning and sequencing of different interleukin genes
in 4 Actus species.";

Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.

EMBL, AF014508, AAD01534.1;

EMBL, AF014508, AAD01534.1;

InterPro; IPR000478; TNF_abc.

InterPro; IPR000478; TNF_abc.

InterPro; IPR000478; TNF_family.

Pfam; PR001234; TNF_ERCROSISFT.

PRINTS: PR001234; TNF_ADC.

PRODOM; PRODOM; TNF. 1.
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Platyrrhini; Cebidae; Actinae; Actus.
                                                                                                                                                                                                                                                                                                                                                                             Aotus vociferans (noisy night monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Aotinae; Aotus.
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90.9%; Pred. No. 2.1e-10;
.ive 0; Mismatches 2; Indels
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SEQUENCE FROM N.A.
Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A.,
Patarroyo M.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
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Last annotation update)
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01-MAY-2000 (TrEMBLrel. 13, Last sequen
01-DEC-2001 (TrEMBLrel.) 9, Last annota
Tumor necrosis factor alpha (Fragment).
                                                                                                                                                                                                                                           01-MAY-1999 (TEMBLrel. 10, Created)
01-MAY-1999 (TERBELEE). 10, Last sequen
01-CT-2001 (TERBELE). 18, Last annoti-
Tumor necrosis factor alpha (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                         PRT;
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1 YOTKVNLLSAIKSPCORETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00251; TNF_1; 1. PROSITE; PS50049; TNF_2; 1.
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Best Local Similarity 90.9
Matches 20; Conservative
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P SEQUENCE FROM N.A.

P SEQUENCE FROM N.A.

A Van Dijk M.A.M., de Jong W.W.;

T Indels indicate that rodents are monophyletic and lagomorphs are their sister group.";

T Lindels indicate that rodents are monophyletic and lagomorphs are their sister group.";

E SUBMILLEG (FEB-2000) to the EMBL/GenBank/DDBJ databases.

E MBL; AJ266626; CAC26338.1; -..

E MBL; AJ266626; CAC26338.1; -..

E MSP; PO1375; 4TSV.

InterPro; IPR003636; TNF_abc.

InterPro; IPR003637; TNF_family.

PRODOM: PD002012; TNF_abc; 1.

SMART; SM00207; TNF; 1.

PROSTIE; PS50049; TNF_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A van Dijk M.A.W., de Jong W.W.;

"Indels indicate that rodents are monophyletic and lagomorphs are thair sister group."

L Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AJ36825; CAC28531.1; -.

EMBL, AJ36825; CAC28531.1; -.

R HSSP; PO1375; JA8M.

R InterPro; IPR00363; TNF_abc.

InterPro; IPR00363; TNF_family.

R Pfam; PF00229; TNF. The family.

R PRODIC: NOC2021; TNF abc; 1.

R PROSITE; PS00251; TNF 1.

R PROSITE; PS00251; TNF_1.

R PROSITE; PS5049; TNF_1.
                                                                                                                Tenrec ecaudatus (tailess tenrec).
Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla: Eutheria; Insectivora; Tenrecidae; Tenrecinae; Tenrec.
NCBI_TaxID=94439;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ochotona princeps (Southern American pika).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Ochotonidae; Ochotona.
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87.8%; Score 101; DB 6; Length 216;
Best Local Similarity 86.4%; Pred. No. 1.6e-09;
Matches 19; Conservative 1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 102; DB 6; Length 217;
Pred. No. 1.1e-09;
1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         216 AA; 23845 MW; 31317D53D70B628D CRC64;
01-JUN-2001 (TrEMBLrel. 17, Last sequence update) 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9BEC9;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    216 AA.
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                                                            Tumor necrosis factor (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l Similarity 86.4%;
19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88.78;
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Matches 19; Conserv
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NON_TER
SEQUENCE
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     DDT REPRESENTATION OF THE PROPERTY OF THE PROP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovine; Bos.
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"Development of a Bovine TNFa Single Strand Conformational Polymorphism.";

Submitted (JUN-1994) to the EMBL/GenBank/DDBJ databases.

EMBL: JU1040; AAA19573.1; -.

EMBL: JU1040; AAA19573.1; -.

EMBL: JU1040; AAA19573.1; -.

RSP: P01375; TNF.

InterPro: IPR001636; TNF_abc.

R PFO0229; TNF; I.

R PROSITE; PS00221; TNF_Abc; I.

R SMART; SM00207; TNF: I.

R PROSITE; PS00221; TNF_1: 1.

R PROSITE; PS50049; TNF_1: 1.
                 Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
EMBL: AF097328: AAF21303.1; --
EMBL: AF097328: AAF21303.1; --
HSSP: POINTS; 4TSV.
InterPro: IPR00478; TNF_abc.
InterPro: IPR00478; TNF_family.
PRINTS; PR01234; TNECROSISFCT.
ProDom: P0002012: TNF_abc; 1.
SMART; SM0207; TNF_1.
PROSITE: P500251; TNF_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 149;
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 91.3%; Score 105; DB 6; Length 14 Best Local Similarity 90.9%; Pred. No. 2.1e-10; Matches 20; Conservative 0; Mismatches 2; Indels
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90.5%; Pred. No. 4.8e-10;
ive 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                NON_TER 104 104
SEQUENCE 104 AA; 11662 MW; BCE0A76D9FFA44BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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  "Aotus nigriceps gene for TNF alpha.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80 YQAKVNLLSAIKSPCQRETPRG 101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74 YQTKVNILSAIKSPCHRETPE 94
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mes 19; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TNFa (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-HOLSTEIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9BEC5
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Q9BEC5 ID Q9 AC Q9 DT 01

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Db
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0
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"Cloning of the deer mouse interferon gamma, interleukin-10 and tumor necrosis factor genes.";
Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF300131; AAG30264.1; -.
HSSP; P06804; 27NF.
InterPro; __IPR003636; TNF_abc.
InterPro; __IPR003636; TNF_family.
                                                                                                                                                                                                    Erinaceus europaeus (Western European hedgehog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Insectivora; Erinaceidae; Erinaceinae; Erinaceus.
NCBI_TaxID=9365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Tumor necrosis factor alpha (Fragment).
Peromyscus maniculatus (Deer mouse).
Bukaryota: Metacoa; Chordat: Creaniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Sigmodontinae;
                                                                                                                                                                                                                                                             [1]
Vacuence From N.A.
van Dijk M.A.M., de Jong W.W.;
van Dijk M.A.M., de Jong W.W.;
"Indels indicate that rodents are monophyletic and lagomorphs are
"Indels indicate."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
                                                                                                                                                                                                                                                                                                               their sister group.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ286830; CAC29522.1;
HSSP; P01375; TYEV.
InterPro; IPR003636; TNE_abc.
InterPro; IPR004636; TNE_family.
Pfam: PF00229; TNF: 1.
PRINTS; PR01234; TNECROSISFCT.
ProDom; P0002012; TNF: 1.
SMART; SM00207; TNF: 1.
PROSITE; PS00251; TNF: 1.
PROSITE; PS0049; TNF: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 97; DB 6; Length 215;
Pred. No. 7.9e-09;
0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              215 215 23696 MW; 3E337E7E65F074EA CRC64;
                                                                                                                                    01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        217 AA
                                                                                                          215 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
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                                                                                                            PRT;
                                                                                                                                                                            Tumor necrosis factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           153 YQKDVNLLSAIKSPCQSETPEG 174
                            1 YQTKVNLLSAIKSPCQRETPEG 22
              1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84.3%;
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Best Local Similarity 86.49
Matches 19; Conservative
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                                                                                                            PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10042;
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NON_TER
SEQUENCE
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(without alignments)
81.670 Million cell updates/sec
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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       908470 seqs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                 OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                   115
1 YQTKVNLLSAIKSPCQRETPEG 22
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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                                                                                                                                                                                                                                                                                                                                                                   Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT:* /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT:* /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:* /SIDS2/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:

TNF-derived polype Modified tumour ne Sequence of new ph Sequence of new ph Anti-tumour active New polypeptide wi Polypeptide wit Polypeptide wit Tumour Necrosis Fa Tum an an TNF analogue #1. TNF analogue #2. Human TNF mutein. Human TNF mutein. Human TNF mutein.	TNF colde con con con con con con con con con con
150 8 AAP71245 150 9 AAP81236 150 9 AAP81066 150 10 AAP91668 150 11 AAR0851 150 11 AAR0851 150 12 AAR11011 150 12 AAR11013 150 13 AAR69809 150 13 AAR69809 150 15 AAR69580 150 15 AAR69580 150 15 AAR69580	150 15 AAR05982 151 9 AAP81231 151 9 AAP81231 151 10 AAR91187 151 11 AAR05865 151 11 AAR05906 151 12 AAR11613 151 12 AAR11714 151 12 AAR11753 151 12 AAR11753 151 12 AAR11969 151 12 AAR11969 151 12 AAR11969 151 12 AAR11969 151 12 AAR13916 151 12 AAR13916 151 12 AAR13916 151 12 AAR13916
1115 5 1000.00 1115 5 1111 1111 1111 111	

ALIGNMENTS

RESULT 1

(SIDS2/goddata/geneseq/geneseqp_emb1/AA1999.DAT:*
(SIDS2/goddata/geneseq/geneseqp_emb1/AA1999.DAT:*
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22; Conservative
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(SONA/) SONAMOTO I.
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Best Local Similarity
Matches 22; Conserv
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-DEC-1995
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                                                              factor (TNF) for the treatment of vascular disease, cardiovascular disorders, thrombotic disorders, or illnesses or pathologies which are treatable by decreasing plasma fibrinogen. Typical conditions which thrombophlebitis, stroke, thromboembolic disorder or ischemic events. In one embodiment the antagonist used is an anti-TNE antibody (optionally chimeric, humanised or resurfaced), preferably one which binds to an epitope comprising at least 5 amino acids within the region TNE-alpha 87-108 and/or TNE-alpha 59-80. The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This peptide sequence is a fragment of tumour necrosis factor-alpha (crre-alpha) corresponding to amino acid position 87-108 of the full length protein. This region is an epitope and is recognized and/or binds with anti-TNE activity. This fragment is used to describe a novel method of frequing or preventing acquired immune deficiency disease and infection with human immune deficiency virus (HTV) by co-administration of interleukin-2 (IL-2) and a chimeric antibody (Ab), or its fragment, against tumour necrosis factor (TNF). IL-2 and Ab are administered by injecting, orally, topically or are produced from gene therapy vectors,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tumour necrosis factor-alpha; epitope; human immunodeficiency virus; HIV: ThY-alpha; anti-ThY; antibody; treatment; prevention; infection; acquired immune deficiency disease; interleukin-2; IL-2; gene therapy; systemic toxicity; CD4+ cell; inflammation; immune response.
                                                                                                                                                                                                                                                                                                                                       Gaps
                                                 The invention relates to the use of an antagonist of tumour necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     using
to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Treating or preventing acquired immune deficiency syndrome usin interleukin-2 - and antibodies against tumour necrosis factor, reduce side effects of the treatment
                                                                                                                                                                                                                                                                                                    Length 22;
                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human tumour necrosis factor-alpha epitope pos. 87-108.
                                                                                                                                                                                                                                                                                                  Score 115; DB 18;
Pred. No. 4.1e-12;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEPT HEALTH & HUMAN SERVICES.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA.
            Claim 10; Page 14; 57pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 10; Page 11; 50pp; English.
                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW59149 standard; peptide; 22
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                                                                                                                                                                                                                                                                                                100.0%;
illarity 100.0%;
Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                        1 YQTKVNLLSAIKSPCQRETPEG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CENZ ) CENTOCOR INC
(USSH ) US DEPT HEALT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-230303/20.
                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                          the 87-108 epitope.
                                                                                                                                                                                                                                                               22 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW59149;
                                                                                                                                                                                                                                                                 Sequence
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δλ Оþ

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but preferably by intravenous injection or infusion. Usual doses are 0.01-100 (especially 1-40) mg/kg/day, in 1-6 portions or in sustained release form. Further doses may be given, just before or during relapse. Inhibition of TMF alpha by Ab alleviates some of the systemic toxicity associated with administration of IL-2 (which increases the level of CD4+cells but also stimulates production of TMF, high levels of which cause unwanted inflammatory and immunological responses). Blockade of TMF allows administration of higher doses of IL-2 than would be otherwise
                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The amino acid sequence of a part of the 4th exon from the tumour necrosis factor (TNF)-alpha. The protein has the peptide AAR72454 attached to the N-terminal amino acid. The fusion protein can be used in pharmaceutical compositions for inhibiting metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
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                                                                                                                                                                                                                                                                                                                                                                   Length 22;
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                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 115; DB 19;
100.0%; Pred. No. 4.1e-12;
ive 0; Mismatches 0;
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100.0%; Pred. No. 3.5e-11;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tumour necrosis factor-alpha 4th exon fragment.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR72456 standard; protein; 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22
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- can be made into tablet form
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AAP82043;

RESULT 4 AAP82043

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Gaps

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DNA sequence encoding hTNF was synthesised chemically and inserted into vector plasmid. Recombinant plasmid was cut with restriction enzyme and DNA fragment coding for new bloactive polypeptide was obtd. The new bloactive polypeptide has ten N-terminal AAA deleted. It has antitumour activity greater than hTNF and can be produced by culturing bacteria transformed with a plasmid contg. DNA encoding the polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Use of divalent metal ions for making Apo-2 ligand and in formulations containing Apo-2 ligand for increasing yield and stability of ligand trimers, useful for therapeutic applications -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; Apo2 ligand: divalent metal ions; viral infection; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ligand and divalent metal ions. Apo-2 ligand and the formulation are useful for treating cancers and viral infections. Addition of divalent metal ions for making Apo-2 ligand and formulations containing Apo-2 ligand results in increased yield and stability
                                                 New bioactive polypeptide - has antitumour activity, and is obtd. by culturing bacteria transformed with plasmid contg. DNA sequence of the polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to a formulation comprising Apo-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 147;
                                                                                                                                                                                                                                                                                                           Length 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Leung
                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kelley RF, Koumenis I,
okh Z, Simmons L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 115; DB 22;
Pred. No. 3.7e-11;
                                                                                                                                                                                                                                                                                                         100.0%; Score 115; DB 9;
100.0%; Pred. No. 3.7e-11;
ive 0; Mismatches 0;
                                                                                                                      Claim 2(1); Page 761; 20pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB67245 standard; protein; 147 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human tumour necrosis factor alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ashkenazi AJ, Hymowitz S, Kelley
O'Connell M, Pai R, Shahrokh Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Fig 3; 60pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                               98
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100.0%;
                                                                                                                                                                                                                                                                                                                                                                              1 YOTKVNLLSAIKSPCORETPEG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-JUN-2000; 2000WO-US17579.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0141342.
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                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of Apo-2 ligand trimers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                         WPI; 2001-123012/13.
 WPI; 1988-010365/02.
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Best Local Similarity
                                                                                                                                                                                                                                                                         147 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147 AA;
                     N-PSDB; AAN82306
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                                                                                                                                                                                                                                                                           Sequence
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AAB67245
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New biologically active polypeptide has cytotoxic activity specifically for tumour cells and, therefore, is expected to be used as an anticancer drug. It is derived from human TMF by deleting 11 N-terminal AAS. (See also J63188396, AAN81624 and AAP81236).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New biologically active polypeptide - useful as anticancer agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence of modified human tumour necrosis factor (hTNF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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100.0%; Pred. No. 3.7e-11;
iive 0; Mismatches 0;
                                                                                                                                                                                      Sequence of new tumour necrosis factor (TNF).
                                                                                                                                                                                                                      Anticancer drug; lymphokine; antitumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2(1); Page 547; 17pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAP81853 standard; protein; 147 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Antitumour; anticancer; cytostatic.
                                                                                   AAP82043 standard; protein; 145 AA.
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70 YQTKVNLLSAIKSPCQRETPEG
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Best Local Similarity 100.
Matches 22; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                              (TELJ ) TELJIN KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TEIJ ) TEIJIN KK
                                                                                                                                                                                                                                                                                         JP63032486-A.
                                                                                                                                                                                                                                                         Homo saptens
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                                                                                                                                                                                                                                                                                                                                                                                            25-JUL-1986;
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Sequence

AAP81853;

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õ QQ RESULT 5

AAP81853

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Apol-related Leucocyte expressed Ligand 1 (TALL-1) nucleic acid molecules, proteins (including homologues), and their antibodies. The invention in particular relates to methods for regulating the interaction between TALL-1 and TALL-1 receptors (BCMA referred as B cell maturation factor) to regulate monocyte, macrophage and B lymphocyte ocompounds that regulate B lymphocyte proliferation. It is also useful for treating B lymphocyte associated autoimmune disorders like rheumatoid arthritis, systemic lupus erythematosus (SLE), insulin dependent diabetes mellitus, multiple sclerosis, mysthenia gravis, Grave's disease,
                                                                                                                                                                                                    The present sequence is a C-terminal region of human Tumour necrosis factor (TNF) which has 20-25% sequence identity with C-terminal region of human TALL-1 protein extracellular domain.
                                                                                                                                          autoimmune haemolytic anaemia, autoimmune thrombocytopenia purpura, Goodpasture's syndrome, pemphigus vulgaris, acute rheumatic fever, post-streptococcal glomerulonephritis, or polyarteritis nodosa.
      present invention relates to Tumour necrosis factor (TNF) and
                                                                                                                                                                            The TALL-1 protein and its couseful in diagnostic assays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (TEIJ ) TEIJIN KK.
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                                                                                                                                                                                                         Human; Tumour Necrosis Factor; TNF; immunosuppressant; TALL-1; Thumour necrosis factor and ApoL-related Leucocyte expressed Ligand 1; therapy; autoimmune disorder; rheumatoid arthritis; multiple solerosis; systemic lupus erythematosus; 5LE; insulin dependent diabetes mellitus; thrombocytopenia purpura; acute rheumatic fever; myasthenia gravis; haemolytic anaemia; Grave's disease; Goodpasture's syndrome; post-streptococcal glomerulonephritis; polyarteritis nodosa; BCMA; B cell maturation factor; pemphigus vulgaris; B-lymphocyte proliferation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isolated TALL-1 protein is used to identify compounds that regulate B lymphocyte proliferation, used to treat B lymphocyte associated autoimmune disorders -
   Gaps
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  Indels
                                                                                                                                                                                    C-terminal region of human Tumour Necrosis Factor (TNF).
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 Mismatches
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label= Beta_strand
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|abel= Beta_strand
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/label= Beta_strand
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/label= Beta_strand
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/label= Beta_strand
                                                                                                           AAY71982 standard; Protein; 147 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                              label Beta_strand
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                         22
                                               86
                                     77 YQTKVNLLSAIKSPCQRETPEG
                       1 YQTKVNLLSAIKSPCQRETPEG
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01-MAY-2000; 2000US-0201012.
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                                                                                                                                                              (first entry)
 Conservative
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                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                             28-MAR-2001
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22;
                                                                                                                                   AAY71982;
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Matches
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                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New phisiologically active polypeptide - with antitumour activity.
                                                                                 0;
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                                           Length 147;
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                                                                                                                                                                                                                                                                                                                                                                                Polypeptide derived from human tumour necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                      Tumour necrosis factor; antitumour activity; pTNF482.
                                       Score 115; DB 22;
Pred. No. 3.7e-11;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 115; DB 10;
100.0%; Pred. No. 3.8e-11;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                         AAP91635 standard; protein; 149 AA
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                                                                                                                                        77 YQTKVNLLSAIKSPCQRETPEG 98
                                     100.0%;
!larity 100.0%;
Conservative 0;
                                                                                                                     1 YOTKVNLLSAIKSPCORETPEG 22
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Best Local Similarity 100.
Matches 22; Conservative
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les 22; Conserv
147 AA;
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The mutant of tumour necrosis factor (TNF) is constructed by modifying the sequence of human TNF and deleting 7 N-terminal amino acids. The mutant has activity 2.8 times that of human TNF.
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                                                                                                                                                                                              It is expressed using expression vector pTNF 416 in E.coli.
The cells are then cultured to give the mutant in an ant. of 15.5% of total proteins. The antitumour activity of this protein was measured using mouse L-929 fibroblast cells. 100 microlitres of E.coli lyaste contg. 0.00006 units had specific activity of the mutant of 0.0000088 units/mg.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tumoricidal polypeptide(s) - are prepd. by cleaving specified DNA with pertinent restriction enzyme(s) and bonding with conventional synthetic DNA adaptor.
                                                                 New bioactive polypeptide - having antitumour activity and higher activity than human tumour necrosis factor.
                                                                                                                                                                                                                                                                                                                                         100.0%; Score 115; DB 8;
100.0%; Pred. No. 3.8e-11;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAP71245 standard; Protein; 150 AA.
                                                                                                                Claim 1; page 623; 18pp; japanese
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85EP-0102093.
85JP-0087297.
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                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TNF-derived polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pumour necrosis factor.
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N-PSDB; AAN71245.
                  WPI; 1987-345004/49.
                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
                                                                                                                                                                                                                                                                                                            150 AA;
                                 N-PSDB; AAN70852
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23-APR-1985;
26-FEB-1986;
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                                                                                                                                                                                                                                                                                                                Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tumour necrosis factor; mutant; antitumour agent; vector pTNF 416;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New physiologically active polypeptide -
contains specific amino acid sequence, shows antitumour effect
and has low side effect.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA is synthesised from 17 oligonucleotides TNF-1 to TNF-17. The gene product may be truncated by 12 N-terminal AAS, and residue Leu-157 may be replaced by Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 115; DB 11;
100.0%; Pred. No. 3.8e-11;
ive 0; Mismatches 0;
                                                                                                                                                                                                                            Antitumour; cancer; tumour necrosis factor; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic tumour necrosis factor mutant.
                                                                                            AAR05612 standard; protein; 149 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAP70528 standard; protein; 150 AA
YQTKVNLLSAIKSPCQRETPEG 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80 YQTKVNLLSAIKSPCQRETPEG 101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; ; 18pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                          88JP-0281364.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 YOTKVNLLSAIKSPCORETPEG
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                                                                                                                                                              (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1990-196692/26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                            Antitumour peptide
                                                                                                                                                                                                                                                                                                                                                                                                                        (TEIJ ) TEIJIN KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  149 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TEIJ ) TEIJIN KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAQ05038
                                                                                                                                                                                                                                                                                          JP02128696-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JP62248498-A.
                                                                                                                                                                                                                                                                                                                                                        09-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-APR-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-APR-1986;
                                                                                                                                                                                                                                                                                                                                                                                        09-NOV-1988;
                                                                                                                                                              29-OCT-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-JAN-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-0CT-1987
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                                                                                                                                                                                                                                                          Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAP70528
                                                                                                                              AAR05612
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
               79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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Gaps

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Length 150; Indels

RESULT 12 AAP81236

Matches

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A recombinant microorganism cell transformed by recombinant plasmid contg. the DNA region coding for the polypeptide is cultured. The polypeptide is isolated from the resulting culture. The microorganism is pref. Escherichia coli.
                                                                                                                                                        New physiologically active polypeptide used as antitumour agent -obtd. by culturing recombinant Escherichia coli cell transformed by plasmid contg. DNA region coding the polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence of new physiologically active polypeptide with antitumour activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New physiologically active anti tumour polypeptide -
pred. by culturing recombinant microorganism cell transformed by
recombinant plasmid contg. DNA coding polypeptide
                                                                                                                                                                                                                                                                                                                                          Length 150;
                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                          Score 115; DB 9;
Pred. No. 3.8e-11;
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                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                               Claim 2 (4); Page 670; 20pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 2 (1); Page 669; 20pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label=OTHER
/note="Leu-COOH"
                                                                                                                                                                                                                                                                                                                                                                                                            80 YQTKVNLLSAIKSPCQRETPEG 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAP81068 standard; protein; 150
                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label=OTHER
/note="NH2-Arg"
Misc-difference 150
                                                                                                                                                                                                                                                                                                                                        100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antitumour; Escherichia coli.
                                  87JP-0059007
                                                            87JP-0059007
                                                                                                                                                                                                                                                                                                                                                                                            1 YQTKVNLLSAIKSPCQRETPEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87JP-0059006.
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                                                                                                                                                                                                                                                                                                                                                                    22; Conservative
                                                                                                                   WPI; 1988-305170/43.
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N-PSDB; AAN81497.
                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                        (TEIJ ) TEIJIN KK.
                                                                                                                                                                                                                                                                                                             150 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TELJ ) TELJIN KK.
                                                                                                                                 P-PSDB; AAP81068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                                 16-MAR-1987;
                                                            16-MAR-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JP63226297-A
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     20-SEP-1988.
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                                                                                                                                                                                                                                                                                                              Sequence
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                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
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     δλ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A DNA sequence produced from synthetic oligonucleotides can be used, in an expression vector, to produce the recombinant polypeptide which has a broad action spectrum and causes few side effects.
                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence of new physiologically active polypeptide with antitumour activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mew biologically active polypeptide - is modified tumour necrosis factor with cytotoxic activity to cancer cells.
                                                                                                                                                                                                                                                                                         Tumour necrosis factor; cytotoxic agent; antitumour drug; cancer.
                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                              Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 150;
                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                            Score 115; DB 8;
Pred. No. 3.8e-11;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 115; DB 9;
100.0%; Pred. No. 3.8e-11;
ive 0; Mismatches 0;
                                                        Mismatches
                                                                                                                                                                              AAP81236 standard; protein; 150 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAP81066 standard; protein; 150 AA
                                                                                                                                                                                                                                                               Modified tumour necrosis factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 1; 20pp; Japanese.
                           100.0%; Soliarity 100.0%; Postorservative 0;
                                                                                                80 YQTKVNLLSAIKSPCQRETPEG 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80 YQTKVNLLSAIKSPCQRETPEG 101
                                                                                  1 YQTKVNLLSAIKSPCQRETPEG 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1988-260396/37.
N-PSDB; AAN81624.
                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
150 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TEIJ ) TEIJIN KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 150 AA;
                                                                                                                                                                                                                                     15-OCT-1990
                                                                                                                                                                                                                                                                                                                                              JP63188396-A.
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                                                                                                                                                                                                                                                                                                                      Synthetic.
 Seguence
                                                                                                                                                                                                         AAP81236;
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                            Query Match
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Matches

δ g RESULT 13 AAP81066

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence is derived from the human tumour necrosis factor amino acid sequence. A region corresp. to the N-terminal 11 residues of the natural seq. is deleted and repair synthesis using the AA sequence: Arg-Lys-Arg is carried out. Fig. 1 is amended to produce the new sequence. Resultant polypeptide has an increased antitumour activity (1.6 x 100, 000 000) compared with human TNF (2.3 x 10,000 000).
A recombinant microorganism cell transformed by recombinant plasmid confg. the DNA region coding for the polypeptide is cultured. The polypeptide is isolated from the resulting culture. The microorganism is pref. Escherichia coli.
                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New biologically active polypeptide - useful as antitumour drug.
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                                                                                                    Query Match
100.0%; Score 115; DB 9; Length 150;
Best Local Similarity 100.0%; Pred. No. 3.8e-11;
Matches .22; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                Antitumour drug; human tumour necrosis factor.
                                                                                                                                                                                                                                                                        AAP95660 standard; protein; 150 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; fig 1; 23pp; Japanese.
                                                                                                                                                                                  80 YQTKVNLLSAIKSPCQRETPEG 101
                                                                                                                                                                                                                                                                                                                                                                Anti-tumour active polypeptide.
                                                                                                                                                               1 YQTKVNLLSAIKSPCQRETPEG 22
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                                                                                                                                                                                                                                                                                                                                    14-AUG-1989 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 100.
Best Local Similarity 100.
Matches 22; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TEIJ ) TEIJIN KK.
                                                                         150 AA;
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                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic.
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AAP95660
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Search completed: December 4, 2002, 13:22:40 Job time : 35.8947 secs

80 YQTKVNLLSAIKSPCQRETPEG 101

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OM protein - protein search, using sw model

December 4, 2002, 13:24:03; Search time 8.10526 Seconds (without alignments) 44.086 Million cell updates/sec Run on:

US-09-754-004-2 Title: Perfect score:

115 1 YQTKVNLLSAIKSPCQRETPEG 22 Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

103943 segs, 16242309 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Published_Applications_AA:* Database :

/cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*/cgn2_6/ptodata/1/pubpaa/USO7_NEW_UB.pep:*/cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*/cgn2_6/ptodata/1/pubpaa/USO7_PUBCOMB.pep:*/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*/cgn2_6/ptodata/1/pubpaa/USO9_NEW_PUB.pep:*/cgn2_6/ptodata/1/pubpaa/USO9_NEW_PUB.pep:*/cgn2_6/ptodata/1/pubpaa/USO9_NEW_PUB.pep:*/ /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*/cgn2_6/ptodata/1/pubpaa/US10_PUBCOMB.pep:*/cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*/cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*/ /cgn2_6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*/cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*/cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:* .. 9

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 2, Appli	Sequence 2, Appli			α,	K			Sequence 19, Appl	Sequence 13, Appl	-	5	Sequence 1, Appli	1	'n	Sequence 1, Appli	2		Æ.
ΩI	US-08-602-272-2	US-09-754-004-2	US-09-877-156-25	US-10-116-378-28	US-09-779-050A-24	US-09-903-327A-7	US-09-756-301A-1	US-09-927-703-1	US-09-854-280-19	US-09-934-465-13	US-09-766-535A-1	US-09-854-208-19	US-09-756-161A-1	US-10-010-229-1	US-10-043-450-1	US-10-044-534-1	US-09-798-789-2	US-09-981-289-2	US-10-145-014-3
DB	60	10	10	12	σ	σ	10	10	10	10	10	10	10	12	12	12	10	10	6
% Query Match Length DB	22	22	150	150	152	157	157	157	157	157	157	157	157	157	157	157	164	164	193
% Query Match	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Score	115	115	115	115	115	115	115	115	115	115	115	. 115	115	115	115	115	115	115	115
Result No.	н	7	e	4	S	9	7	80	σ	10	11	12	13	14	15	16	17	18	19

Sequence 3, Appli Sequence 5, Appli Sequence 3, Appli Sequence 22, Appl	Sequence 5, Appli Sequence 5, Appli Sequence 43, Appl	Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli	Sequence 3, Appli Sequence 5, Appli Sequence 10, Appl	11, A 10, A 3, Ap	Sequence 7, Appli Sequence 7, Appli Sequence 14, Appl	Sequence 37065, A Sequence 4992, Ap Sequence 10904, A	0, 4, 4
10 US-09-982-308-3 8 US-08-971-317A-5 9 US-10-136-511-3 9 US-10-145-014-22	10 US-09-193-663-5 10 US-09-879-919-5 10 US-09-782-980-43 10 HS-09-840-7078-14		10 US-09-899-059-3 12 US-10-082-260-5 12 US-10-012-452-10	9 US-09-903-327A-11 9 US-09-779-050A-40 9 US-10-017-910-8	10 US-09-246-129B-7 10 US-09-899-059-7 12 US-10-012-452-14	10 US-09-864-761-37065 10 US-09-815-242-4992 10 US-09-815-242-10904	
193 233 233 233	733 733 733 733	333 333 333 333 333 333 333 333 333 33	233 233 233	597 151 235	235 235 235	551 313 442	263 458 495
100.0 100.0 100.0	100.0	100.0	100.0 100.0 100.0	100.0 83.5 83.5	80.9 6.08 6.08	38.3 37.8 37.8	
115 115 115 115	115 115 115	115 115 115	115 115 115	115 96 96	8 8 8 8 8 8	44 43.5 43.5	444 222
222	2000 2000 2000	30 30 30 30	337 337 33	3 3 4 3 5	37 38 39	4 4 4 2 1 2	44 44 5

ALIGNMENTS

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APPLICANT: Elliott, Michael J.
APPLICANT: Maini, Ravinder N.
APPLICANT: Maini, Ravinder N.
APPLICANT: Maini, Ravinder N.
TITLE OF INVENTION: Methods of Preventing or Treating
TITLE OF INVENTION: Cardiovascular, Cerebrovascular and Thrombotic Disorders
TITLE OF INVENTION: with Tumor Necrosis Factor Antagonists
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Ralease #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KIR96-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/602,272 FILING DATE:
                                           Sequence 2, Application US/08602272
Patent No. US20020081306A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Brook, David E.
REGISTRATION NUMBER: 22,592
REFERENCE/POCKET NUMBER: KII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                        Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                     STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acid
                                                                                                                                                                                                                                                                                                                        STREET: Two Mili
                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A.
ZIP: 02173-4799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 22 am
TYPE: amino a
STRANDEDNESS:
RESULT 1
US-08-602-272-2
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RESULT 5
US-09-779-050A-24
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                                                                                                                                  US-10-116-378-28
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                                                                           Gaps
                                                                                                                                                                                                                                                US-US-124-UU4-2

Sequence 2. Application US/09754004

Patent No. US20020010180A1

GENERAL INFORMATION:

APPLICANT: Marc Feldmann

APPLICANT: Ravinder N. Maini

APPLICANT: Ravinder N. Maini

TITLE OF INVENTION: TNF Alpha Antagonists and Methotrexate

FILE REFERENCE: 2891.1001.02

CURRENT FILING DATE: 1991.01-01-03

PRIOR FILING DATE: 1996-00-28

PRIOR FILING DATE: 1994-00-28

PRIOR FILING DATE: 1994-03-10

PRIOR FILING DATE: 1994-03-10

PRIOR FILING DATE: 1994-00-06

PRIOR FILING DATE: 1993-10-06

SPIOR FILING DATE: 1992-10-08

NUMBER OF SEQ ID NOS: 2

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 2

LINGTH: 22
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                                100.0%; Score 115; DB 8; Length 22; 100.0%; Pred. No. 1.9e-12; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Catherine Tribouley
TITLE OF INVENTION: NEW MEMBERS OF TNF AND TNFR FAMILIES
FILE REFERENCE: 1408 003/20130 439C1
CURRENT APPLICATION NUMBER: US/09/877,156
CURRENT FILING DATE: 2001-06-08
PRIOR APPLICATION NUMBER: US 09/286,529
PRIOR FILING DATE: 1998-04-05
NUMBER OF SEQ ID NOS: 25
SOFTHARE: FastSEQ for Windows Version 3.0
: SEQ ID NO 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
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100.0%; Pred. No., 1.7e-11;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 115; DB 10;
100.0%; Pred. No. 1.9e-12;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Sequence 25, Application US/09877156
; Patent No. US20020055625A1
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                                                                                                                                           1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                   1 YQTKVNLLSAIKSPCQRETPEG 22
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Best Local Similarity 100.0
Matches 22; Conservative
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                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Homo sapien
US-09-754-004-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Lecal Similarity
Matches 22; Conserv
                                                         Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-877-156-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-877-156-25
                                                                                                                                                                                                                        RESULT 2
US-09-754-004-2
US-08-602-272-2
                                        Query Match
                                                                               Matches
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GENERAL INCORRATION:
GENERAL INCORRATION:
APPLICANT: Ashkenazi, Avi J.
APPLICANT: Goddard, Audrey
APPLICANT: Gurney, Austin
GENERAL INCORRATION:
APPLICANT: Gurney, Austin
APPLICANT: Hold, Robert M.
TITLE OF INVENTION: NOVEL TUMOR NECROSIS FACTOR RECEPTOR HOMOLOG AND
TITLE OF INVENTION: NUCLEIC
TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REPERENCE: P1206H
CURRENT APPLICATION NUMBER: US/10/116,378
CURRENT FILING DATE: 2002-04-04
FRIOR FILING DATE: EARLIER FILING DATE: 1999-02-09
PRIOR FILING DATE: EARLIER FILING DATE: 1999-02-09
PRIOR FILING DATE: EARLIER FILING DATE: 1998-02-09
NUMBER OF SEQ ID NOS: 31
FENOM: TENOM: TENOM: TENDM: TEND
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Pred. No. 1.7e-11;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 115; DB 12; 100.0%; Pred. No. 1.7e-11;
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APPLICANT: BOYLE, WILLIAM
APPLICANT: BOYLE, WILLIAM
TITLE OF INVENTION: RECEPTOR FROM THE FAMILY
FILE OF INVENTION: RECEPTOR FROM THE FAMILY
CURRENT APPLICATION NUMBER: US/09/779,050A
CURRENT FILING DATE: 2001-02-12
PRIOR APPLICATION NUMBER: 60/181,800
PRIOR FILING DATE: 2000-02-11
NUMBER OF SEQ ID NOS: 52
SOFTWARE: PATENTIN VERSION 3.0
SEQ ID NO 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                        ; Sequence 28, Application US/10116378
; Patent No. US20020150993A1
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100.0%; Pr
tive 0;
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1 YQTKVNLLSAIKSPCQRETPEG 22
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Best Local Similarity 100.
Matches 22; Conservative
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ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                 Length 157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Anti-TAN Antibodies and Peptides of TITLE OF INVENTION: Anti-TAN ANTIBOR APPLICATION: NUMBER: U.S. 09/756,398
PRIOR APPLICATION NUMBER: U.S. 09/756,398
PRIOR APPLICATION NUMBER: U.S. 09/133,119
PRIOR FILING DATE: 1998-08-12
PRIOR FILING DATE: 1998-08-12
PRIOR FILING DATE: 1994-10-18
PRIOR FILING DATE: 1994-10-18
PRIOR FILING DATE: 1994-02-04
PRIOR FILING DATE: 1993-02-02
PRIOR PAPLICATION NUMBER: U.S. 08/013,413
PRIOR FILING DATE: 1993-02-02
PRIOR FILING DATE: 1993-02-02
PRIOR FILING DATE: 1993-02-03
PRIOR FILING DATE: 1993-03-18
PRIOR FILING DATE: 1992-09-11
PRIOR FILING DATE: 1992-09-11
PRIOR FILING DATE: 1992-09-11
PRIOR FILING DATE: 1992-09-11
PRIOR FILING DATE: 1991-03-18
PRIOR FILING DATE: 1991-03-18
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                                                                                                                                                                                                                                              Score 115; DB 10;
Pred. No. 1.8e-11;
; Mismatches 0;
PRIOR APPLICATION NUMBER: U.S.07/670,827
PRIOR FILING DATE: 1991-03-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1, Application US/09927703
Patent No. US200202720A1
GENERAL INFORMATION:
APPLICANT: Le, Junming
APPLICANT: Vilcek, Jan
APPLICANT: Gladdona, Peter
APPLICANT: Ghrayeb, John
APPLICANT: Knight, David M.
                                                                                                                                                                                                                                                                                                                                                                          87 YQTKVNLLSAIKSPCQRETPEG 108
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                                                                                                                                                                  ; ORGANISM: Homo sapiens
US-09-756-301A-1
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Best Local Similarity
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Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Siegel,
                                                                                                                    LENGTH: 157
TYPE: PRT
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US-09-927-703-1
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                                                                                        GENERAL INFORMATION:
APPLICANT: Nemerow, Glen R.
APPLICANT: Li, Erguang
TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
TITLE OF INVENTION: BELLY
TITLE OF INVENTION: 2000-10-07-10
PRIOR FILING DATE: 2000-07-10
PRIOR FILING DATE: 2000-07-10
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FASLSEQ for Windows Version 4.0
SEQ ID NO 7
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NAME/KEY: PEPTIDE
COCATION: (0)...(0)
OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature)
OTHER INFORMATION: peptide)
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APPLICANT: Vilcek, Jan
APPLICANT: Vilcek, Jan
APPLICANT: Daddonn,
APPLICANT: Engleb, John
APPLICANT: Knight, David M.
APPLICANT: Siegel, Scott
TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
TITLE OF INVENTION: Human Tumor Necrosis Factor
FILE REFERENCE: 0975.1005-008
CURRENT APPLICATION NUMBER: US/09/756,301A
CURRENT FILING DATE: 2001-01-08
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PRIOR FILING DATE: 1998-08-12
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
PRIOR APPLICATION NUMBER: U.S. 08/324,799
PRIOR FILING DATE: 1994-10-18
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APPLICATION NUMBER: U.S. 08/570,674
FILING DATE: 1995-12-11
APPLICATION NUMBER: U.S. 08/324,799
FILING DATE: 1994-10-18
APPLICATION NUMBER: U.S. 08/192,102
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APPLICATION NUMBER: U.S. 08/192,093
FILING DATE: 1994-02-04
APPLICATION NUMBER: U.S. 08/010,406
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APPLICATION NUMBER: U.S. 08/192,861
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                                        Sequence 7, Application US/09903327A
Patent No. US20020164333A1
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ORGANISM: Human
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US-09-756-301A-1
                         US-09-903-327A-7
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PRIOR
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  RESULT 6
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22; Conservative
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ORGANISM: Homo sapiens
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                                                                       Ghrayeb,
GENERAL INFORMATION:
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US-09-854-208-19
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APPLICANT:
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TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF FILE REFERENCE: P1381R1C2
CURRENT APPLICATION NUMBER: US/09/854,280
CURRENT FILING DATE: 2001-05-10
PRIOR APPLICATION NUMBER: US 69/311,832
PRIOR FILING DATE: 1999-05-14
PRIOR FILING DATE: 1998-05-15
PRIOR FILING DATE: 1998-05-15
PRIOR FILING DATE: 1998-12-33
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 19
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100.0%; Pred. No. 1.8e-11;
Live 0; Mismatches 0;
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Pred. No. 1.8e-11;
; Mismatches 0;
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TITLE OF INVENTION: APO-2 LIGAND
FILE REPERBORE: 11669,220503
CURRENT APPLICATION NUMBER: US/09/934,465
CURRENT FILING DATE: 2001-08-21
PRIOR APPLICATION NUMBER: 08/584,031
PRIOR FILING DATE: 1996-01-09
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn Ver. 2.0
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US-02-06-56-535A-1
Sequence 1, Application US/09766535A
Patent No. US20020106372A1
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Patent No. US20020102233A1
GENERAL INFORMATION:
                                                                                      Sequence 19, Application US/09854280
Patent No. US20020052027A1
GENERAL INFORMATION:
APPLICANT: Chen, Jian
APPLICANT: Filvaroff, Ellen
APPLICANT: Goddard, Audrey
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   87 YQTKVNLLSAIKSPCQRETPEG 1.08
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Best Local Similarity 100.0%;
Matches 22; Conservative (
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Li, Hanzhong
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LENGTH: 157
TYPE: PRT
ORGANISM: Homo sapiens
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US-09-854-280-19
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                                                      RESULT 9
US-09-854-280-19
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APPLICANT:
APPLICANT:
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Gaps
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APPLICANT: Gurney, Austin
APPLICANT: Li, Hanzhong
APPLICANT: Wood, William I.
III. TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES
TITLE OF INVENTION: THEREOF
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APPLICANT: SILEAGE, SCOTE

APPLICANT: Knight, David M.
APPLICANT: Siegel, Scott

TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
TITLE OF INVENTION: Human Tumor Necrosis Factor
FILE REFERENCE: 0975.1005-010
CURRENT PEDLICATION NUMBER: US.09/766,535A
CURRENT FILING DATE: 1996-08-12
PRIOR APPLICATION NUMBER: U.S. 09/133,119
PRIOR PILING DATE: 1996-08-12
PRIOR PILING DATE: 1996-08-12
PRIOR FILING DATE: 1996-08-12
PRIOR FILING DATE: 1994-02-04
PRIOR PLICATION NUMBER: U.S. 08/192,093
PRIOR FILING DATE: 1994-02-04
PRIOR PLICATION NUMBER: U.S. 08/192,093
PRIOR FILING DATE: 1993-02-04
PRIOR FILING DATE: 1993-02-02
PRIOR PLILING DATE: 1993-02-03
PRIOR PLILING DATE: 1993-02-03
PRIOR PLILING DATE: 1993-03-18
PRIOR PRILICATION NUMBER: U.S. 07/943,852
PRIOR PLILING DATE: 1992-03-18
PRIOR PRILICATION NUMBER: U.S. 07/943,852
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
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CURRENT APPLICATION NUMBER: US/09/854,208
CURRENT FILING DATE: 2001-05-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: U.S. 07/670,827 PRIOR FILING DATE: 1991-03-18
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PRIOR APPLICATION NUMBER: US/09/311,832
PRIOR FILING DATE: 1999-05-14
PRIOR APPLICATION NUMBER: US 60/085,579
PRIOR FILING DATE: 1998-05-15
PRIOR APPLICATION NUMBER: US 60/113,621
PRIOR PILING DATE: 1998-12-23
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Patent No. US20020106743A1
GENERAL INFORMATION:
APPLICANT: Chen, Jian
APPLICANT: Filvaroff, Ellen
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Sequence 1, Application US/10043450 Patent No. US20020141996A1
    Sequence 1, Application US/10010229 Patent No. US20020114805A1
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APPLICANT: Vilcek, Jan
APPLICANT: Daddona, Peter
APPLICANT: Ghrayeb, John
APPLICANT: Knight, David M.
APPLICANT: Siegel, Scott
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                                                                         APPLICANT: Le, Junming APPLICANT: Vilcek, Jan
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US-10-010-229-1
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Best Local Similarity
Matches 22; Conserv
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US-10-043-450-1
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APPLICANT: Ghrayeb, John
APPLICANT: Ghrayeb, John
APPLICANT: Knight, David M.
APPLICANT: Siegel, Scott
TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
TITLE OF INVENTION: Human Tumor Necrosis Factor
TITLE OF INVENTION: Human Tumor Necrosis Factor
OURRENT APPLICATION NUMBER: US/09/756,161A
CURRENT APPLICATION NUMBER: US. 09/133,119
PRIOR PILING DATE: 1996-02.12
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
PRIOR PILING DATE: 1995-12-11
PRIOR FILING DATE: 1994-02.04
PRIOR PILING DATE: 1994-02.04
PRIOR FILING DATE: 1994-02.04
PRIOR FILING DATE: 1993-09-11
PRIOR PILING DATE: 1992-09-11
PRIOR PILING DATE: 1992-09-11
PRIOR APPLICATION NUMBER: U.S. 07/943,852
PRIOR APPLICATION NUMBER: U.S. 07/943,852
PRIOR APPLICATION NUMBER: U.S. 07/943,852
PRIOR PILING DATE: 1992-09-11
PRIOR PILING DATE: 1992-09-11
PRIOR PILING DATE: 1992-09-11
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100.0%; Pred. No. 1.8e-11;
tive 0; Mismatches 0;
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Application US/09756161A Patent No. US20020132307A1
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                                                                                                                                                                                                                                                              1 YQTKVNLLSAIKSPCQRETPEG 22
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Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Le, Junming
APPLICANT: Vilcek, Jan
APPLICANT: Daddona, Peter
APPLICANT: Ghrayeb, John
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 19
LENGTH: 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : Homo sapiens
                                                                    TYPE: PRT
CORGANISM: Homo sapiens
US-09-854-208-19
                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
US-09-756-161A-1
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US-09-756-161A-1
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APPLICANT: Daddona, Peter
APPLICANT: Ghrayeb, John
APPLICANT: Knight, David M.
APPLICANT: Siegel, South
TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
TITLE OF INVENTION: Human Tumor Necrosis Factor
FILE REFERENCE: 0975.1005-013
CURRENT APPLICATION NUMBER: US/10/010,229
CURRENT FILING DATE: 2001-12-07
PRIOR FILING DATE: 2001-08-10
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
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CURRENT APPLICATION NUMBER: US/10/043,450
CURRENT FILING DATE: 2002-01-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 115; DB 12; 100.0%; Pred. No. 1.8e-11;
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PRIOR APPLICATION NUMBER: 05/927,703
PRIOR FILING DATE: 2001-08-10
PRIOR FILING DATE: 2001-08-10
PRIOR FILING DATE: 2001-08-10
PRIOR FILING DATE: 2001-01-08
PRIOR FILING DATE: 1998-08-12
PRIOR FILING DATE: 1998-08-12
PRIOR FILING DATE: 1998-08-12
PRIOR PLILORATION NUMBER: U.S. 08/734,799
PRIOR PLILOR DATE: 1994-10-18
PRIOR FILING DATE: 1994-10-18
PRIOR FILING DATE: 1994-10-18
PRIOR FILING DATE: 1994-02-04
PRIOR PRILORATION NUMBER: U.S. 08/192,031
PRIOR PLILORATION NUMBER: U.S. 08/192,031
PRIOR PAPLICATION NUMBER: U.S. 08/192,031
PRIOR FILING DATE: 1994-02-04
PRIOR FILING DATE: 1994-02-04
PRIOR FILING DATE: 1994-02-04
PRIOR FILING DATE: 1994-02-04
PRIOR FILING DATE: 1993-02-02
PRIOR FILING DATE: 1993-02-02
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RESULT 14 US-10-010-229-1

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100.0%; Score 115; DB 12; Length 157;

Best Local Similarity 100.0%; Pred. No. 1.8e-11;

Matches 22; Conservative 0; Mismatches 0; Indels 0;
; PRIOR APPLICATION NUMBER: U.S. 07/670,827; PRIOR FILING DATE: 1991-03-18; NUMBER OF SEQ ID NOS: 19; SCOTWARE: FastSEQ for Windows Version 4.0; SEQ ID NO 1; LEWITH: 157; TYPE: PRT; ORCANISM: Homo sapiens US-10-043-450-1
                                                                                                                                                                                                                                                                                                                                                    Search completed: December 4, 2002, 13:30:35 Job time : 9.10526 secs
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SEQUENCE CHARACTERISTICS:
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US-08-690-775-2
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                                                                                                                                               (without alignments)
48.612 Million cell updates/sec
                                                                                                                           December 4, 2002, 13:21:18; Search time 13.3158 Seconds
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/cgn2_6/ptodata/1/laa/6A_COMB.pep:*
/cgn2_6/ptodata/1/laa/6B_COMB.pep:*
/cgn2_6/ptodata/1/laa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/laa/PCTUS_COMB.pep:*
               GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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US-07-668-517-15
US-07-668-517-3
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US-07-668-517-4
US-07-668-517-6
US-07-668-517-8
US-07-668-517-8
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US-07-668-517-17
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US-09-286-529-25
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Maximum Match 100%
Listing first 45 summaries
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1 YQTKVNLLSAIKSPCQRETPEG 22
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Maximum DB seq length: 200000000
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APPLICANT: Feldmann, Marc
APPLICANT: Maini, Ravinder N.
TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND METHOTREXATE IN
TITLE OF INVENTION: THE TREATMENT OF AUTOIMMUNE DISEASE
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E: HAMILTON, BROOK, SMITH & REYNOLDS, P.C. TWO MILITIA DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFWARRE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/690,775
FILING DATE: 01-AUG-1996
          US-07-668-517-18
US-07-668-517-19
US-07-668-517-20
US-07-668-517-23
US-07-668-517-24
US-07-668-517-25
US-07-668-517-26
US-07-668-517-26
US-07-668-517-27
US-07-668-517-27
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US-07-668-517-36
US-07-668-517-38
US-07-668-517-21
US-07-763-512-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08 0607,419
FILING DATE: 28 FEB.1996
FILING DATE: 28 FEB.196
FILING DATE: 18 MAR.194
APPLICATION NUMBER: PCT/GB94/00462
FILING DATE: 15 MAR.1934
APPLICATION NUMBER: PCT/GB93/02070
FILING DATE: 06-OCT-1993
PRIOR APPLICATION NUMBER: 08 OCT-1993
APPLING DATE: 08 OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Brook Esq., David E.
REGISTRATION NUMBER: 22,592
REFERENCE/DOCKET NUMBER: KIR92-01A4
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/08690775 Patent No. 6270766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (617) 861-6240
TELEFAX: (617) 861-9540
INFORMATION FOR SEQ ID NO: 2:
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CITY: LEXINGTON
STATE: MASSACHUSETTS
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Patent No. 5262309
GENERAL INFORMATION:
APPLICANT: Satoshi NAKAMURA et al.
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
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                                                                          Length 22;
                                                                        100.0%; Score 115; DB 4;
100.0%; Pred. No. 6.8e-13;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb COMPUTER: IBM Compatible OPERATING SYSTEM: MS-DOS SOFTWARE: DISPLAYWITE CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/668,517 FILING DATE: 19910322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
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                                                                                                                                                       1 YOTKVNLLSAIKSPCORETPEG 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : 147 amino acids
AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Matthew Jacob
REGISTRATION NUMBER: 25
REFERENCE/DOCKET NUMBER:
                                                                                                                 Conservative
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IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: single
                  ; MOLECULE TYPE: peptide US-08-690-775-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
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CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                          Query Match
Best Local Similarity
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TOPOLOGY: linear
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US-07-668-517-1
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RESULT 3

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No. 5262309el Physiologically Active Polypeptide, Recombinant Plasmid, Recombinant Microorganism Cell, Pharmaceutical Composition and Method of Recovering
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Sequence 9, Application US/09105343A

Sequence 9, Application US/09105343A

Patent No. 6207642

GENERAL INFORMATION:
APPLICANT: WILEY, S.R.
TITLE OF INVENTION: MEMBER OF THE TNF FAMILY USEFUL
TITLE OF INVENTION: FOR TREATMENT AND DIAGNOSIS OF DISEASE
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Abbott Laboratories
STREET: 100 Abbott Laboratories
CITY: Abbott Park
CITY: Abbott Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 147;
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Pred. No. 6.2e-12;
                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ for Windows Version 2.0b CURREWY APPLICATION DATA:
APPLICATION NUMBER: US/09/105,343A FILING DATE: 12-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
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STREET: 805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 115;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT/US98/02859
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APPLICANT: SALOSHI NAKAMURA et al.
TITLE OF INVENTION: No. 5262309el J
TITLE OF INVENTION: Polypeptide, R
TITLE OF INVENTION: Cell, Pharmace
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/07668517
Patent No. 5262309
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REGISTRATION NUMBER: 35,441
REFERENCE/DOCKET UNMBER: 604
TELECOMMUNICATION:
TELECHONE: 847-935-1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22
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MOLECULE TYPE: No. 6207642e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.08;
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                                                                                                                                                                                                                                                                                                ZIP: 60064-6050
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/N
FILING DATE: 12-FEB-1998
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ 1D NO: 9
SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 847-938-2623
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
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COUNTRY: U.S.A.
ZIP: 20005
                                                                                                                                                                                                                                                     STATE: IL
COUNTRY: USA
ZIP: 60064-6050
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Satoshi NAKAMURA et al.

YNENTION: No. 5262309ell Physiologically Active
NYENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
VENTION: Cell, Pharmaceutical Composition and Method of Recovering
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                                                                                                                                                                                                                                                                                                                                            Length 148;
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                                                                                                                                                                                                                                                                                                                                            100.0%; Score 115; DB 1;
100.0%; Pred. No. 6.3e-12;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDLUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/O7/668,517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-07-668-517-3
; Sequence 3, Application US/07668517
; Patent No. 5262309
; GENERAL INFORMATION:
; APPLICANT: Satoshi NAKAMURA et al.
; TITLE OF INVENTION: No. 5262309e1
; TITLE OF INVENTION: Polypeptide, i. TITLE OF INVENTION: Cell, Pharmacc.
; NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                            15:
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                                                           INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 148 amino acids
TYPE: AMINO ACID
STRANDEDNESS: SINGle
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LENGTH: 149 amino acids
    202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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CLASSIFTCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
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                      TELEFAX: 202-371-8856
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                                                                                                                                                                                                                                                        DENTIFICATION METHOD:
; OTHER INFORMATION:
US-07-668-517-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: AMINO ACID
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS: ADDRESS:
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                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                          linear
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    TELEPHONE:
                                                                                                                                                                        TOPOLOGY:
FEATURE:
                                                                                                                                                                                                                  NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: D. COUNTRY:
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TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
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CUMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOCTWARE: DisplayMrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 1991032
CLASSPICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
                 SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 1991022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-07-668-517-15; Sequence 15, Application US/07668517; Patent No. 5262309; GENERAL INFORMATION:
                                                                                                                                                                    FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
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REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER:
TELECOMONNICATION
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
OPERATING SYSTEM: MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 148 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DENTIFICATION METHOD:
COTHER INFORMATION:
US-07-668-517-2
                                                                                                 CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Matthew Jacob
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: D.C
COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION
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Sequence 5, Application US/07668517
Patent No. 5262309
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                        No. 5262309el Physiologically Active
Polypeptide, Recombinant Plasmid, Recombinant Microorganism
Cell, Pharmaceutical Composition and Method of Recovering
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 115; DB 1;
100.0%; Pred. No. 6.4e-12;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
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STREET: 805 Fifteenth Street, N.W., #700
                                                                                                                                                               ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 19910322
                                         NAKAMURA et al.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM Compatible OPERATING SYSTEM: MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Matthew Jacob
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                : 150 amino acids
AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.
Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                      TITLE OF INVENTION:
TITLE OF INVENTION: POLY
TITLE OF INVENTION: Cell
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 202-371-8856
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COTHER INFORMATION:
US-07-668-517-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 805 FILE
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                   GENERAL INFORMATION:
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                                                                                                                                                                                                                                   D.C.
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FEATURE:
                                                                                                                                                                                                                                 STATE: D. COUNTRY:
                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:
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                                         Length 149;
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                                                                                 Indels
                                     100.0%; Score 115; DB 1;
100.0%; Pred. No. 6.3e-12;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 100.0%; Score 115; DB 1; Best Local Similarity 100.0%; Pred. No. 6.3e-12; Matches 22; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: Wenderoth, Lind & Ponack
805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 19910322
CLASSIFFCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                   US-07-668-517-16
; Sequence 16, Application US/07668517
Patent No. 5263309
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-07-668-517<sub>2</sub>4
; Sequence 4, Application US/07668517
                                                                                                                                              79 YQTKVNLLSAIKSPCQRETPEG 100
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                                                                                                                        1 YOTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 16: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 149 amino acids
                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDENTIFICATION METHOD:
COTHER INFORMATION:
US-07-668-517-16
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                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
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                                       Query Match
Best Local Similarity
Matches 22; Conserv
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20005
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US-07-668-517-3
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Gaps

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Length 150; Indels

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Sequence 8, Application US/07668517

Sequence 8. Application US/07668517

Patent No. 5262309

GENERAL INFORMATION:
APPLICANT: Satoshi NAKAMURA et al.
ATITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50

CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth, Lind & Ponack
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 100.0%; Score 115; DB 1; Length 150; Best Local Similarity 100.0%; Pred. No. 6.4e-12; Matches 22; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb COMPUTER: IBM COMPATIBLE OPERATING SYSTEM: MS-DOS SOFTWARE: DisplayWrite CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/668,517 FILING DATE: 19910322 CLASSIFICATION DATA: APPLICATION DATA: APPLICATION NUMBER: FITING NAME NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
ATORNEY/AGENT INFORMATION:
NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFRENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 25,154
                                           TELECOMMUNICATION INFORMATION: 202-371-8850
                                                                                                                          INFORMATION FOR SEQ ID NO: 6: SEQUENCE CHARACTERISTICS: LENGTH: 150 amino acids TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: 8:
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                         REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS
                                                                                      TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                              IDENTIFICATION METHOD: COTHER INFORMATION: US-07-668-517-6
                                                                                                                                                                                                                   SS: single
linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Washington
                                                                                                                                                                                               TYPE: AMINO AC
STRANDEDNESS:
TOPOLOGY: line
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: D.C
                                                                                                                                                                                                                                                                                       NAME/KEY:
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                                                                                                               TELEX:
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APPLICANT: Satoshi NAKAWURA et al.

APPLICANT: Satoshi NAKAWURA et al.

TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:

ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
STATE: D.C.
COUNTRY: U.S.A.
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         MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb COMPUTER: IBM Compatible OPERATING SYSTEM: MS-DOS SOFTWARE: Displaywrite CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/668,517 FILING DATE: 19910322 CLASSIFICATION: 530 PRIOR APPLICATION DATA: APPLICATION NUMBER: APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
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FILING DATE: 19910322
                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 6, Application US/07668517
Patent No. 5262309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
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Best Local Similarity 100.0
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; OTHER INFORMATION:
US-07-668-517-5
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TOPOLOGY: linear
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CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
COMPUTER READABLE FORM:
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TYPE: AMINO ACID
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Matches 22; Conserv
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STATE: D.C
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             US-07-668-517-10
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RESULT 13
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TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant Microorganism
TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth. Tital
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                                                                                    Query Match 100.0%; Score 115; DB 1; Best Local Similarity 100.0%; Pred. No. 6.4e-12; Matches 22; Conservative 0; Mismatches 0;
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ilarity 100.0%; Pred. No. 6.4e-12;
Conservative 0; Mismatches 0;
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WEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Wenderoth, Lind & Ponack
805 Fifteenth Street, N.W., #700
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V: г. г.
                                                                                                                                                                                                                                                                                   Sequence 9, Application US/07668517
Patent No. 5262309
GENERL INFORMATION:
APPLICANT: Satoshi NAKAMURA et a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     * 80 YQTKVNLLSAIKSPCQRETPEG 101
                                                                                                                                                                               80 YQTKVNLLSAIKSPCQRETPEG 101
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                                                                                                                                                             1 YQTKVNLLSAIKSPCQRETPEG 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM COMPATIBLE OPERATING SYSTEM: MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: DisplayWrite CURRENT APPLICATION DATA: APPLICATION NUMBER: US/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 19910322
CLASSIFTCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; IDENTIFICATION METHOD:
; OTHER INFORMATION:
US-07-668-517-9
             ; IDENTIFICATION METHOD:
; OTHER INFORMATION:
US-07-668-517-8
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Best Local Similarity
Matches 22; Conserv
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LOCATION
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US-07-668-517-9
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NAKAMURA et al.
No. 2562309el Physiologically Active
Polypeptide, Recombinant Plasmid, Recombinant Microorganism
Cell, Pharmaceutical Composition and Method of Recovering
                                                                      NAKAMURA et al.
No. 5262309el Physiologically Active
Polypeptide, Recombinant Plasmid, Recombinant Microorganism
Cell, Pharmaceutical Composition and Method of Recovering
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100.0%; Pred. No. 6.4e-12;
ive 0; Mismatches 0;
                                                                 APPLICANT: SALOSHI NAKAMURA et al.
TITLE OF INVENTION: No. 5262309el Physiolog
TITLE OF INVENTION: Polypeptide, Recombinan
TITLE OF INVENTION: Cell, Pharmaceutical Co
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEE: Wenderoth, Lind & Ponack
: 805 Fifteenth Street, N.W., #700
Washington
                                                                                                                                                                                                                                                                                                                                                                                E: Diskette, 5.25 inch, 500 Kb IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/07/668,517
FILING DATE: 19910322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 11, Application US/07668517 Patent No. 5262309
; Sequence 10, Application US/07668517; Patent No. 5262309
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         80 YQTKVNLLSAIKSPCQRETPEG 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
                                                                                                                                                                                                                                                                                                                                                                                                                                MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: DisplayWrite CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
COMPUTER: IBM Compatib
OPERATING SYSTEM: MS-D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Satoshi NAKAN
TITLE OF INVENTION: NO.
TITLE OF INVENTION: POLY
TITLE OF INVENTION: Cell
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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COTHER INFORMATION:
US-07-668-517-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS: single TOPOLOGY: linear
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CITY: Wa
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Length 150;
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100.0%; Pred. No. 6.4e-12;
tive 0; Mismatches 0;
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                            ATTORNEY/AGENT INFORMATION:
NAME: MATCHEW JACOB
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80 YQTKVNLLSAIKSPCQRETPEG 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 12: SEQUENCE CHARACTERISTICS: LENGTH: 150 amino acids TYPE: AMINO ACID STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.0
Matches 22; Conservative
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; IDENTIFICATION METHOD:
; OTHER INFORMATION:
US-07-668-517-12
                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
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Patent No. 5262309
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: No. 5262309el Physiologically Active
TITLE OF INVENTION: Polypeptide, Recombinant Plasmid, Recombinant TITLE OF INVENTION: Cell, Pharmaceutical Composition and Method of Recovering CONFESPONDENCE ADDRESS:
ADDRESSE: Wenderoch, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700 .
CONTRIPED D.C.
COUNTRY: U.S.A.
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                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb COMPUTER: IDEN COMPATIBLE FORM:
OCMPUTER: IDEN COMPATIBLE CORRESTER: MS-DOS SOFTWARE: DisplayWrite CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 1991032
CLASSIFICATION S30
PRIOR APPLICATION S30
PRIOR APPLICATION NUMBER:
FILING DATE:
FILING DATE:
ATTORNEY AGENT INFORMATION:
NAME: MATCHEW Jacob
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 Kb
COMPUTER: Diskette, 5.25 inch, 500 Kb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/668,517
FILING DATE: 19910322
CLASSIFICATION: 530
PRIOR APPLICATION SATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                 NAME: Matthew Jacob
REGISTRATION NUMBER: 25,154
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
TELEFAX: 202-371-8856
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SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
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Matches 22; Conservative
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IDENTIFICATION METHOD:
OTHER INFORMATION:
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STATE: D.C. COUNTRY: U.S.A.
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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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OM protein - protein search, using sw model

December 4, 2002, 13:30:18; Search time 14 Seconds (without alignments) 109.868 Million cell updates/sec Run on:

US-09-754-004-1 89 1 YSQVLFKGQGCPSTHV 16 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283224 seqs, 96134422 residues Searched:

2770 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 16

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	ы	qlycoprotein hormo	bothrojaracin - ja	placental calcium.	vitamin D3 26-mono	sperm-activating p	small nuclear ribo	Iq heavy chain DJ	nitrogenase (EC 1.	collagen alpha cha	insulin-like growt	oxytocin - hippopo	1	oxytocin - finback	oxytocin - Austral	oxytocin - rabbit	fibrinogen beta ch	arginine vasotocin	vasotocin - common	hydrin 2 - bullfro	hydrin 1 - African	Ig heavy chain DJ		protein QA600027 -	T-cell receptor be	T-cell receptor be	glandular kallikre	T-cell receptor al	dissimilatory sulf	T-rell recentor al
SOPPERALES	QI	A61309	A48630	149407	S15850	A60522	148778	PH1309	I39753	S23376	S05700	A91466	A92774	A93147	A93408	B90667	D24180	S06375	B61364	A61131	A33900	PH1322	PA0034	PT0085	C24687	A28587	A54326	129	S63493	S23373
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A48630

Dothrojaracin - jararaca (fragment)

N;Alternate names: thrombin inhibitor
C;Species: Bothrops jararaca(jararaca).
C;Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 23-Mar-1995
C;Date: 07-A8630
R;Zingali, R. B.; Jandrot-Perrus, M.; Guillin, M.C.; Bon, C.
Biochemistry 32, 10794-10802, 1993
A;Title: Bothrojaracin, a new thrombin inhibitor isolated from Bothrops jararaca veno
A;Reference number: A48630; MUID:94002075; PMID:8399228
A;Accession: A48630
A;Status: preliminary
A;Accession: Calo-ten
A;Residues: 1-16 - (21N-A)
A;Residues: 1-16 - (21N-A)
A;Residues: 1-16 - (22N-A)
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Gaps

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Ouery Match 29.2%; Score 26; DB 2; Length 16; Best Local Similarity 100.0%; Pred. No. 7.5e+02; Matches 4; Conservative 0; Mismatches 0; Indels

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factor X activator actin 8 - Slime mo protein QF20017 - beaded-chain filam T-cell receptor be gene c-rel protein T-cell receptor be fibrinopeptide B - dihydroorstase (EC 33K protein 318 - T-cell receptor be 148K exoantigen - hypothetical protein QF200007 - lombricine kinase	ragmen ain; 1 1994 # rd, D. ster 1 D:6889	DB 2; Length 12; 1.8e+02; .hes 2; Indels 0; Gaps 0;
A60379 A39239 PA0054 A32921 G24687 G24687 G24687 G24687 G24687 G32651 G33099 S26552 G33099 S61438 PA0055	ALIGNMENTS RESULT 1 A61309 glycoprotein hormones alpha chain - hamster (fragg glycoprotein hormones alpha chain - hamster (fragg glycoprotein alpha chain C. Species: Cricetinae gen. sp. (hamster) C. Species: Cricetinae gen. sp. (hamster) C. Accession: A61309 B. Glenn, S.D.; Nahm, H.S.; Greenwald, G.S.; Ward, Endocrinology 111, 1263-1269, 1982 A.Title: Isolation and characterization of hamster A. Reference number: A61309; MUID:83003498; PMID:6A. Accession: A61309 A. Status: preliminary A. Molecule type: protein C. Superfamily: glycoprotein hormones alpha chain C. Keywords: glycoprotein	Score 29; Pred. No. 0; Mismatc
22222222222222222222222222222222222222	ALICGASULT 1 A61309 glycoprotein hormones alpha chain - hams with Alexander names: choriogonadotropin al C. Species: Cricetinae gen. Sp. (hamster) C. Species: Tr-Jul-1994 #sequence_revision 1 C. Accession: A61309 C. Accession: A61309 A. Title: Isolation and characterization A. Reference number: A61309; MUID: 8300349 A. Status: preliminary A. Molecule type: protein A. Molecule type: protein C. Superfamily: glycoprotein hormones alp C. Keywords: glycoprotein	32.6%; larity 71.4%; Conservative 12
222 222 222 222 222 222 222 222 222 22	mones es: che tinae (1309 #; 1309 #; 1310 Anima (11, 12) Anima (1309 Anima (13	Similarity 5; Conser QGCP 12
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WW WW WW WW WW W W W W W W W W W W W W	RESULT A61309 glycopr N,Alter C,Specis C,Date: C,Acces R,Glacril A,Title A,Refer A,Resid A,Resid C,Super C,Super C,Super C,Super C,Super	Query M Best Lo Matches Qy 6 Db 6

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Difference (EC 1.18.6.1) - Azospirillum brasilense (fragment)
N.Alternate names: dinitrogenase reductase
C.Species: Azospirillum brasilense
C.Species: Azospirillum brasilense
C.Species: 19-Jul-1996 #sequence_revision 19-Jul-1996 #text_change 19-Jan-2001
C.Accession: 13973
R.Zhang, Y.; Burris, R.H.; Roberts, G.P.
J. Bacteriol. 174, 3364-3369, 1992
A.Title: Cloning, sequencing, mutagenesis, and functional characterization of draT an A; Reference number: 139751; MUID:92250433; PMID:1577701
A.Accession: 139753
A.Status: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-14 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cipecies: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 30-699-1993 #sequence_revision 30-Sep-1993 #text_change 07-May-1999
C;Accession: PH1309
R;Wasserman, R.; Galili, N.; Ito, Y.; Reichard, B.A.; Shane, S.; Rovera, G.
J. Exp. Med. 176, 1577-1581, 1992
A;Title: Predominance of fetal type DJH joining in young children with B precursor ly A;Reference number: PH1302; MJID:93094761; PMID:1460419
A;Recession: PH1309
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-13 <WAS>
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                                                                                                                                                                                                                      c; Species: Mus musculus (house mouse)
C; Date: 02-041-1996 #text_change 05-Nov-1999
C; Accession: 148778
R; Fautsch, M.P.; Thompson, M.A.; Hollcky, E.L.; Schultz, P.J.; Hallett, J.B.; Wieben, Genomics 14, 883-890, 1992
A; Title: Conservation of coding and transcriptional control sequences within the snRN A; Reference number: A44368; MuID:93122798; PMID:1478669
A; Accession: 148778
A; Accession: 148778
A; Molecule type: DNA
A; Residues: 1-10 < RES>
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Length 9;
   24.7%; Score 22; DB 2; Le 100.0%; Pred. No. 2.8e+05;
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3 YRGQG 7
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R;Yoshino, K.I.; Kurita, M.; Yamaguchi, M.; Nomura, K.; Takao, T.; Shimonishi, Y.; Suzuk
R;Yoshino, K.I.; Kurita, M.; Yamaguchi, M.; Nomura, K.; Takao, T.; Shimonishi, Y.; Suzuk
Comp. Biochem. Physiol. B 95, 423-429, 1990
A;Title: A species-specific sperm-activating peptide from the egg jelly of the sea urchi
A;Reference number: A60522; MUID:90227916; PMID:2158412
A;Accession: A60522
                                                                                                                                                                                                                              C; Accession: I49407
R; Ko, M.S.; Wang, X.; Horton, J.H.; Hagen, M.D.; Takahashi, N.; Maezaki, Y.; Nadeau, J.H.
Mamm. Genome 5, 349-355, 1994
A; Title: Genetic mapping of 40 cDNA clones on the mouse genome by PCR.
A; Reference number: I48934; MUID:94319082; PMID:8043949
A; Accession: I49907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vitamin D3 26-monooxygenase (EC 1.14.14..) cytochrome P450 27 - pig (fragment)
NiAlternate names: cytochrome P450(26); vitamin D3 26-hydroxylase
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 23-Apr-1993 #sequence_revision 23-Apr-1993 #text_change 05-Mar-1999
C;Accession: 815850
R;Bergman, T: Postlind, H.
Biochem. J. 276, 427-432, 1991
A;Title: Characterization of mitochondrial cytochromes P-450 from pig kidney and liver A;Reference number: 815850; MuID:91264797; PMID:2049072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Superfamily: unassigned cytochrome P450; cytochrome P450 homology
C;Keywords: heme; mitochondrion; monooxygenase; oxidoreductase; transmembrane protein
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C;Species: Diadema setosum
C;Date: 17-Apr.1993 #sequence_revision 17-Apr-1993 #text_change 18-Aug-2000
                                                                                                                            placental calcium-binding protein - western wild mouse (fragment)
C,Species: Mus spretus (western wild mouse)
C,Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 29-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: EMBL:U05696; NID:9497016; PIDN:AAA61936.1; PID:9497017
C;Superfamily: S-100 protein; calmodulin repeat homology
C;Reywords: calcium binding; EF hand
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27.0%; Score 24; DB 2; Length 15;
Best Local Similarity 75.0%; Pred. No. 1.5e+03;
Matches 3; Conservative 1; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-15 <RES>
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A;Resiques: 1-9 <70S>
C;Superfamily: unassigned animal peptides
F;2-9/Disulfide bonds: #status experimental
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Best Local Similarity 100.
Matches 4; Conservative
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A; Residues: 1-9 <BIO>
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3 KGQG 6
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5 EGCP 8
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Oxytocin - spotted ratfish
N;Alternate names: neurophysin I
N;Contains: neurophysin I
C;Species: Hydrolagus colliei (spotted ratfish)
C;Accession: A92774; A01450; B01450
R;Pickering, B.T.; Heller, H.
J. Endocrinol. 45, 597-606, 1969
A;Title: Oxytocin as a neurohypophysial hormone in the holocephalian elasmobranch fis A;Reference number: A92774; MUID:70088110; PMID:5366118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N.Alternate names: neurophysin I
N.Alternate names: neurophysin I
N.Contains: neurophysin 1; oxytocin
C; Species: Balaenoptera physalus (finback whale, common rorqual)
C; Species: Balaenoptera physalus (finback whale, common rorqual)
C; Species: Balaenoptera physalus (finback whale, common rorqual)
C; Accession: A93147; A01450; Bul450
R; Acher, R.; Chauvet, J.; Chauvet, M.T.
Nature 201, 191-192, 1964
A; Title: Isolation of finback whale oxytocin and vasopressin.
A; Reference number: A93147
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A;Residues: 1-9 <ACH>
C;Comment: Oxytocin is followed by neurophysin 1 in the precursor.
C;Superfamily: Oxytocin-neurophysin
C;Steywords: amidated carboxyl end; hormone; hypothalamus
F;1-6/Disulfide bonds: #status experimental
F;9/Modified site: amidated carboxyl end (Gly) #status experimental
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C;Comment: Oxytocin is followed by neurophysin 1 in the precursor. C;Superfamily: oxytocin-neurophysin C;Superfamily: oxytocin-neurophysin C;Reywords: amidated carboxyl end; hormone; hypothalamus F;1-6/Disulfide bonds: #status predicted F;9/Modified site: amidated carboxyl end (Gly) #status predicted
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A; Residues: 1-9 <PIC>
C; Comment: Oxytocin is followed by neurophysin 1 in the precursor.
C; Superfamily: oxytocin-neurophysin
C; Keywords: amidated carboxyl end; hormone; hypothalamus
F;1-6/Disulfide bonds: #status predicted
F;9/Modified site: amidated carboxyl end (Gly) #status predicted
                                                                                                                                                                                      23.6%; Score 21; DB 2; Length 9; 75.0%; Pred. No. 2.8e+05; tive 0; Mismatches 1; Indels
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Pred. No. 2.8e+05;
0; Mismatches 1; Indels
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Best Local Similarity 75.0%;
Matches 3; Conservative 0
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Best Local Similarity 75.09
Matches 3; Conservative
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Best Local Similarity
Matches 3; Conserv
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C; Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 29-May-1998
C; Accession: S23376
R; Gaill, F; Wiedemann, H.; Mann, K.; Kuehn, K.; Timpl, R.; Engel, J.
J. Mol. Biol. 221, 209-223, 1991
A; Title: Molecular characterization of cuticle and interstitial collagens from worms col
A; Reference number: S17581; MUID: 92015209; PMID: 1920405
A; Accession: S23376
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C;Species: Homo sapiens (man)
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 18-Jun-1993
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 18-Jun-1993
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 18-Jun-1993
R;Roghani, M.; Hossenlopp, P.; Lepage, P.; Balland, A.; Binoux, M.
FEBS Lett. 255, 253-258, 1989
A;Title: Isolation from human cerebrospinal fluid of a new insulin-like growth factor-bi
A;Reference number: S05699; MUID:90005986; PMID:2551732
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N;Alternate names: neurophysin I
N;Alternate names: neurophysin I
N;Cortains: neurophysin I;Coxytocin
S;Species: Hippopotamus amphibius (hippopotamus)
C;Species: Hippopotamus amphibius (hippopotamus)
C;Species: Hippopotamus amphibius (hippopotamus)
C;Species: Hippopotamus amphibius (hippopotamus)
C;Species: Hippopotamus Bul466; A01450; B01450
C;Accession: A91466; A01450; B01450
A;Fitle: Arginine and lysine vasopressins in the hippopotamus neurohypophysis.
A;Reference number: A91466; MUID:7123719; PMID:5406007
A;Recession: A91466
A;Molecule type: protein
A;Residues: 1-9 <FER>
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   A;Cross-references: GB:M87319; NID:g142411; PIDN:AAA22182.1; PID:g142414 C;Keywords: ATP; nitrogen fixation; oxidoreductase
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Pred. No. 3.1e+03;
1; Mismatches 2; Indels
                                                                                                                                                          3; Indels
                                                                                        Score 22; DB 2; I
Pred. No. 3.1e+03;
2; Mismatches 3;
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Best Local Similarity 57.1%;
Matches 4; Conservative
                                                                                           Query Match 24.7%;
Best Local Similarity 37.5%;
Matches 3; Conservative
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A; Residues: 1-15 < ROG>
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Matches 4; Conserv
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5 IFFEKPGC 12
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Ni Alternate names: neurophysin I
Ni Alternate names: neurophysin I; oxytocin
Ni Contains: neurophysin 1; oxytocin
C; Species: Oryctolagus cuniculus (domestic rabbit)
C; Date: 30-0ct-1992 #sequence_revision 30-0ct-1992 #text_change 20-Mar-1998
C; Date: 30-0ct-1992 #sequence_revision 30-0ct-1992 #text_change 20-0ct-1992 #text_change 20-0ct-1992 #text_change 20-0ct-1992 #text_change 20-0ct-1992 #text_change 20-0ct-1992 #text_ch
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                                N;Alternate names: neurophysin I
N;Contains: neurophysin I; oxytocin
C;Species: Tachyglossus aculeatus (Australian echidna)
C;Species: Tachyglossus aculeatus (Australian echidna)
C;Accession: A94408; A01450; B01450
R;Acher, R.; Chauvet, J.; Chauvet, M.T.
Nature New Biol. 244, 124-126, 1973
A;Title: Neurohypophysial hormones and evolution of tetrapods.
A;Reference number: A93408; MuID:73223515; PMID:4515919
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A.Molecule type: protein
A.Molecule type: protein
C.Comment: Oxytocin is followed by neurophysin 1 in the precursor.
C.Superfamily: Oxytocin-neurophysin
C.Keywords: amidated carboxyl end; hormone; hypothalamus
F:1-G.Disulfide bonds: #status experimental
F:9/Modified site: amidated carboxyl end (Gly) #status experimental
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A; Mesidues: 1-9 ACMS-

C; Comment: Oxytocin is followed by neurophysin 1 in the precursor.

C; Superfamily: oxytocin-neurophysin

C; Superfamily: oxytocin-neurophysin

C; Seywords: amidated carboxyl end, hormone, hypothalamus

F; 1-6/Disulfide bonds: #status predicted

F; 9/Modified site: amidated carboxyl end (Gly) #status predicted
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Best Local Similarity 75.0
Matches 3; Conservative
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oxytocin - Australian echidna
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Best Local Similarity
Matches 3; Conserv
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4 QNCP 7
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December 4, 2002, 13:25:08; Search time 10 Seconds (without alignments) 66.362 Million cell updates/sec

US-09-754-004-1 89 1 YSQVLFKGQGCPSTHV 16 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

112892 segs, 41476328 residues Searched:

822 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 16

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_40:* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	ρţ	P19346 erythrocebu								P81780 herpes simp	-				P56636 conus magus	P05486 conus geogr	couns	P19345 macaca fusc		-	P81358 clostridium	P81085 pinus pinas	P58841 conus querc	P58842 conus querc	arenico		solanum	P18691 thunnus alb	P02729 homo sapien	P83047 conus ventr	6	m	P42993 cyprinus ca	ے
SUMMARIES	QI	FIBB_ERYPA	OXYT_BUFRE	OXYT_CYPCA	OXYT_RABIT	OXYV_SQUAC	PH2_PERAM	FIBB_PAPAN	KLOM_LUMTE	VGLG_HSV2B	OXYT_EISFO	PGLR_DIAAB	BPP_VIPAS	H2AX_ONCMY	CXA2_CONMA	CONO_CONGE	CONO_CONST	FIBB_MACFU	OXYT_OCTVU	BPPB_AGKHA	UN37_CLOPA	ACT_PINPS	CX3A_CONQU	CX3B_CONQU	KTRC_AREMA	LPK1_LOCMI	MMPX_SOLTU	ACI_THUAL	GLUR_HUMAN	COW_CONVE	DNF1_LOCMI	FIBB_PAPHA	ISOT_CYPCA	OXYA SCYCA
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P42999 squalus aca P42997 scyliorhinu	P42994 raja clavat P24047 stomopneute P01255 sus scrofa	P29261 prunus sero P81626 locusta mig	PS8848 conus aulic PS8849 conus aulic PS0983 conus imper	P29262 prunus sero P28489 bos taurus
OXYA_SQUAC OXYF_SCYCA	OXYT_RAJCL SAP_STOVA THYF_PIG	AH3_PRUSE AKHX_LOCMI	CXSA_CONAL CX5B_CONAL CXA1_CONIM	AH4_PRUSE CRTC_BOVIN
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ALIGNMENTS

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9 AA. ate) pdate) opeptide B] (). Vertebrata; i; Cercopithe nkey (Macaca r amino acid hylogeny for	FUNCTION: FIBRINGEN HAS A DOUBLE FUNCTION: YIELDING MONOMER POLYMERIZE INTO FIBRIN AND ACTING AS A COFACTOR IN PLATELET AGGREGATION. SUBUNIT: HEXAMER CONTAINING 2 SETS OF 3 NONIDENTICAL CHAINS (ALPHA, BETA AND GAMAA), LINKED TO EACH OTHER BY DISULFIDE B MISCELLANEOUS: CONVERSION OF FIBRINGEN TO FIBRIN IS TRIGGER THROWBIN, WHICH CLEAVES FIBRINGPETIDES A AND B FROM ALPHA & CHAINS, AND THUS EXPOSES THE N-TERMINAL POLYMERIZATION SITES RESPONSIBLE FOR THE FORMATION OF THE SOFT CLOT. D24180, D24180, D24181, Fibrinogen_C. ITE; PSO0514; FIBRIN_AG_C_DOMAIN; PARTIAL. d coaqulation; plasma. FIBRINOPEPTIDE B. 9 FIBRINOPEPTIDE B. 1 DB. 9 FIBRINOPEPTIDE B.	Score 21; DB 1; Length 9; Pred. No. 1.1e+05; Mismatches 1; Indels PRT; 9 AA. quence update)
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T 1 FIBB_ERYPA STANDARD; PRT; P19346; 01-NOV-1990 (Rel. 16, Created) 01-NOV-1990 (Rel. 16, Last sequence upd 01-NOV-1990 (Rel. 41, Last annotation up 15-JUN-2002 (Rel. 41, Last annotation up Fibrinogen beta chain [Contains: Fibrin FGB. RGB. Mammalia; Eutheria; Primates; Craniata; Mammalia; Eutheria; Primates; Catarrhin Cercopithecinae; Erythrocebus. (1) KSEQUENCE NGLINE-65289140; Pubmed-3928610; NGLINE-65289140; Pubmed-3928610; WEDLINE-65289140; Pubmed-3928610; WEDLINE-65289140; Pubmed-3928610; WESTICTE M B Of Japanese mo patas monkey (Erythrocebus patas): thei guenons, and baboone.; Hibrinopeptides A and B of Japanese mo patas monkey (Erythrocebus patas): thei guenons, and baboone.; Hibrinopeptides A and a molecular p guenons, and baboone.; Hibrinopeptides A and a molecular p		2 5 vati NDAR 32, 32,
FEBLEYPA AC P19346; DT O1-NOV-1990 (Rel. 1) T15-UNV-1990 (Rel. 3) T15-UNV-1990 (Rel. 3) T15-UNV-2002 (Rel. 4) DE Fibrinogen beta che GN FGB. CN Ergh. COS Eukaryota; Metazoa; CN ENGB. CC COSOITHECIA; CC CC CC COSOITHECIA; CC CC CC COSOITHECIA; CC	POLYMERIZE INT AGGREGATION1- SUBUNT: HEXAM (ALPHA, BETA AI- -1- MISCELLANEOUS: THROMBIN, WHICI CHAINS, AND TH RESPONSIBLE FO PIR, D24180; D2418 InterPro; IPR00218 PROSITE; PS00514; Blood coaquiation; PEPTIDE 1 NON_TER 9	Query Match Best Local Similarity Matches 4; Conser Oy 3 QVLFKGQ 9 : : Db 3 EVLFGGR 9 CXYT_BUFRE TESULT 2 CXYT_BUFRE TO OXYT_BUFRE TO O1-NOV-1995 (Rel.) DT 01-NOV-1995 (Rel.) DT 01-NOV-1995 (Rel.) DT 01-NOV-1995 (Rel.) DT 01-NOV-1995 (Rel.)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SPECIES-C.carpio; TISSUE-Pituitary; Acher R., Chauvet J., Chauvet M.-T., Crepy D.; Characterization of neurohypophyseal hormones from a fresh water bony
                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Petromyzon marinus (Sea lamprey).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Actinopterygii, Neopterygii, Teleostei, Ostariophysi, Cypriniformes, Cyprinidae, Cyprinus.
NCBI_TaxID=7962, 7757;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fish, the carp (Cyprinus carpio). Comparison with hormones from sea water bony fishs.";
                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae;
                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPECIES—P. marinus; TISSUE=Pituitary;
MEDLINE=88225976; PubMed=3371648;
Lane T.F., Sower S.A., Kawauchi H.;
Arginine vasotocin from the pituitary gland of the lamprey (Petromyzon marinus): isolation and amino acid sequence.";
Gen. Comp. Endocrinol. 70:152-157(1988).
-!- FUNCTION: ANITOIURETIC HORMONE.
-!- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY.
PIR; 801364, B61364.
-- INTERPRO; PRO009015.
                                                                                                                                                                                                                                                                                                                   Score 21; DB 1; Length 9; Pred. No. 1.1e+05; 0; Mismatches 1; Indels

        MOD_RES
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        AMIDATION.

        SEQUENCE
        9 AA; 983 MW; 17FF476EA5A6D04B CRC64;

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01-NOV-1991 (Rel. 20, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
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PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
                                                                                                   TISSUE=Pituitary neurointermediate lobe;
MEDLINE=96059313; PubMed=7591488;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
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             Bufo regularis (Leopard toad).
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75.0%;
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Matches 3; Conservative
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DISULFID 1
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                                                               NCBI_TaxID=8390;
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Hippopotamus amphibius (Hippopotamus),
Habaenoptera physalus (Finback whale) (Common rorqual),
Balaenoptera physalus (Finback whale) (Common aculeatus aculeatus (Australian echidna), and
Hydrolagus colliei (Spotted raffish) (Pacific raffish).
Bukaryota: Metazoa: Chordatu; Cranniata; Vertebrata; Euteleostoml;
Mammalia: Eutheria: Lagomoorpha; Leporidae; Oryctolagus.
                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                  SPECIES-Rabbit;
MEDLINE-72215060; PubMed-5150741;
Chauvet J., Chauvet M.-T., Acher R.;
"Evolution of neurohypophyseal hormones: isolation of active principles from rabbits and rats.";
Biochimie 53:1099-1104(1971).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=73223515; PubMed=4515919;
Acher R., Chauvet J., Chauvet M.-T.;
"Neurothypophysial hormones and evolution of tetrapods.";
Nature New Biol. 244:124-126(1973).
                                                              1; Indels
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Acher R., Chauvet J., Chauvet M.-T.;
"Isolation of finback whale oxytocin and vasopressin.";
Nature 201:191-192(1964).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SPECIES-H.amphibius;
MEDLINE-7123-719; PubMed-5406007;
MEDLINE-7123-719; Pickering B.T.;
"Arginine and lygine vasopressins in the hippopotamus
                                      Length
AMIDATION.
17EB176EB456D04B CRC64;
                                   Score 21; DB 1; Pred. No. 1.1e+05;
                                                                                                                                                                           OXYT_RABIT STANDARD: PRT; 9 AA. P32878; P01188; 21-JUL-1986 (Rel. 01, Created) 15-DEC-1998 (Rel. 01, Last sequence update) 15-DEC-1998 (Rel. 37, Last annotation update)
                                                              Mismatches
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                                                               0;
                                      23.68;
75.08;
 9 9
9 AA; 1053 MW;
                                                                 Conservative
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PIR, A92774; A92774.
PIR, A93147, A93147.
PIR, A93408; A93408.
PIR, B90667; B90667.
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                                                  Local Similarity
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Peptide hormone 2 (Pea-VEAacid 2).
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60.0%;
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Matches 3; Conservative
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Acher R., Chauvet J., Chauvet M.-T., Fontaine M.;
Acher I., Chauvet J., Chauvet M.-T., Fontaine M.;
Indentification of 2 new neurohypophyseal hormones, valitocin (Val8-oxytocin) and aspartocin (Asn4-oxytocin) in a selachian fish, the spiny dog-fish (Squalus acanthias).";
C. R. Acad. Sci., D., Sci. Nat. 274:313-316(1972).
InterPro; IPR001981; Neurihyp_horm.
InterPro; IPR001230; Prenyl_site.
                                                                                                                                   Gaps
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Acher R., Chauvet J., Chauvet M.-T.;
*Phytogeny of the neurohypophysial hormones. Two new active peptides isolated from a cartilaginous fish, Squalus acanthias.";
Eur. J. Biochem. 29:12-19(1972).
                                                                                                                                                                                                                                                                                     Squalus acanthias (Spiny dogfish).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Elasmobranchii; Squalea; Squaloidei; Squalidae; Squalus.
NCBI_TaxID=7797;
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                                                                                                            Score 21; DB 1; Length 9;
Pred. No. 1.1e+05;
0; Mismatches 1; Indels
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                                                                                9 9 AMIDATION.
9 AA; 1010 MW; 17F8376EB456D04B CRC64;
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9 AA; 996 MW; 17EDD76EB456D04B CRC64;
                 InterPro; IPR000981; Neurhyp_horm.
InterPro; IPR001230; Prenyl_site.
Pfam; PF001220; hormone4; 1.
PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
HORMONE; Hypothalamus; Amidation; 3D-structure.
DISULPID
                                                                                                                                                                                                                                              01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
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PROSITE; PS00264; NEUROHYPOPHYS_HORM; 1.
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          PDB; 1XY2; 15-OCT-90.
PDB; 1XY1; 15-OCT-90
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P82695;
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P43000;
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SEQUENCE
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"Fibrinopeptides A and B of baboons (Papio anubis, Papio hamadryas,
and Theropithecus gelada): their amino acid sequences and
evolutionary rates and a molecular phylogeny for the baboons.";
J. Biochem. 94:1973-1978 (1983).
-!- FUNCTION: FIBRINGEN HAS A DOUBLE FUNCTION: YIELDING MONOMERS THAT
POLYMERIZE INTO FIBRIN AND ACTING AS A COFACTOR IN PLATELET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGREGATION.

-!- SUBUNIT: HEXAMER CONTAINING 2 SETS OF 3 NONIDENTICAL CHAINS (ALPHA, BETA AND GAMMA), LINKED TO EACH OTHER BY DISCLEIDE BONDS.
-!- MISCELLANEOUS: CONVERSION OF FIBRINGEN TO FIBRIN IS TRIGGERED BY THROMBIN, WHICH CLEAVES FIBRINOPEPTIDES A AND B FROM ALPHA & BETA CHAINS, AND THUS EXPOSES THE N-TERMINAL POLYMERIZATION SITES RESPONSIBLE FOR THE FORMATION OF THE SOFT CLOT.
Periplaneta americana (American Cockroach).
Eukaryota, Metazoa, Arthropoda, Mandibulata, Pancrustacea, Hexapoda;
Insecta, Perygota, Neoptera, Orthopteroidea, Dictyoptera, Blattaria;
Blattoidea, Blattidae, Periplaneta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
Cercopithecinae, Papio.
NCBL_TaxID=9555,
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01-NOV-1990 (Rel. 16, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Fibrinogen beta chain (Contains: Fibrinopeptide B] (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 19; DB 1; Length 9; Pred. No. 1.18+05; 2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                         15 AA; 1603 MW; F353DC8B1F92B8BD CRC64;
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                                                                                                                                                                                                                                          TISSUE-Abdominal perisympathetic organs;
Predel R.;
Submitted (JUL-2000) to the SWISS-PROT data bank.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 20; DB 1; I
Pred. No. 2.2e+03;
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InterPro; IPR002181; Fibrinogen_C.
PROSITE; PS00514; FIBRIN_AG_C_DOMAIN; PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FIBRINOPEPTIDE B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Mismatches
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Annetocin.
                                                                                                                                                                                                                                                                         PROSITE;
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                                                                                                                  SEQUENCE
                                                                                                                                                                                       Biochem.
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                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                   Hormone;
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   OXYT_EISFO
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Submitted (APR-1999) to the SWISS-PROT data bank.
-!- MISCELLANEOUS: THERE ARE SEVEN EXTERNAL GLYCOPROTEINS IN HSV1 AND
2: GH, GB, GC, GG, GI, AND GE.
-!- MISCELLANEOUS: GLYCOPROTEIN G IS MUCH LARGER IN HSV-2 THAN IN
                                                                                                                       der Terrossian E., Desvages G., Pradel L.A., Kassab R., van Thoai N.;
"Comparative structural studies of the active site of ATP: quanidine
phosphotransferases. The essential cysteine tryptic peptide of
lombricine kinase from Lumbricus terrestris muscle.";
Eur. J. Biochem. 22:585-592(1971).
-!- CATALYTIC ACTIVITY: ATP + lombricine = ADP + N-phospholombricine.
-!- SUBULY: BELONGS TO THE ATP:GUANIDO PHOSPHOTRANSFERASE FAMILY.
PIR: A08416. A08416.
PROSITE: PSO0112; GUANIDO_KINASE; 1.
                                                                                                                                                                                                                                                                                                                Gaps
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                                                       Lumbricus terrestris (Common earthworm).
Eukaryota; Metazoa; Annelida; Clitellata; Oligochaeta; Haplotaxida;
Lumbricina; Lumbricidae; Lumbricus.
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Pred. No. 1.1e+05;
2; Indels
                                                                                                                                                                                                                                                                                          Length 15;
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                                                                                                                                                                                                                                                                       2A45FEF6140E90C4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Herpes simplex virus (type 2 / strain B4327UR).
Viruses; dSDNA viruses, no RNA stage; Herpesviridae;
Alphaherpesvirinae; Simplexvirus.
                                                                                                                                                                                                                                                                                 DB 1; Leny
. 3.3e+03;
1;
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                 01-OCT-1989 (Rel. 12, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
15-UUL-1999 (Rel. 38, Last annotation update)
Lombricine kinase (EC 2.7.3.5) (LK) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                  (Rel. 38, Created)
(Rel. 38, Last sequence update)
(Rel. 38, Last annotation update)
 15 AA.
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 PRT;
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                                                                                                                MEDLINE=72066544; PubMed=5128744;
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60.0%;
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 STANDARD;
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NON_TER 1
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Best Local Similarity
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                                                                                    NCBI_TaxID=6398;
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KLOM_LUMTE
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NON_TER
SEQUENCE
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Best Local S
Matches 2
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iochem. Biophys. Res. Commun. 198:393-399(1994).
1- FUNCTION: POTENTIATES SPONTANEOUS CONTRACTIONS OF THE GUT AND ALSO
PULSATORY CONTRACTIONS AND BLADDER-SHAKING MOVEMENT OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NEPHRIDIA. MAY BE INVOLVED IN OSMOREGULATION OF THE ANIMAL THROUGH NEPHRIDIAL FUNCTION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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Doostdar H., McCollum T.G., Mayer R.T.;
Purification and characterization of an endo-polygalacturonase from the gut of West Indies sugarcane rootstalk borer weevil (Diaprepes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Endo-Polygalacturonase (FG) (EC 3.2.1.15) (Fragment).
Diaprepes abbreviatus (Sugarcane rootstalk borer weevil).
Eukaryota, Metazoa, Arthropoda, Mandibulata, Pancrustacea, Hexapoda,
Insecta, Pterygota; Neoptera; Endopterygota; Coleoptera; Polyphaga;
Cucujiformia; Phytophaga; Curculionidae; Entiminae; Entimini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Annetocin: an oxytocin-related peptide isolated from the earthworm,
                                                                                                                                                                                                                                                                                  Eisenia foetida (Common brandling worm) (Common dung-worm).
Eukaryota; Metazoa; Annelida; Clitellata; Oligochaeta; Haplotaxida;
Lumbricina; Lumbricidae; Eisenia.
NCBI_TaxID=6396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ukena K., Matsushima O., Ikeda T., Fujita T., Minakata H.,
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                                                                                                                                                         32, Last sequence update) 32, Last annotation update)
               9 AA.
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               PRT;
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InterPro; IPR000981; Neurhyp_horm.
Pfam; PF00220; hormone4; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Pituitary;
MEDLINE=94121660; PubMed=8292046;
OXYT_EISFO STANDARD; P42998; O1-NOV-1995 (Rel. 32, Created) 01-NOV-1995 (Rel. 32, Last sequol-NOV-1995 (Rel. 32, Last annov-1995 (Rel. 32, Last anno
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Matches 2; Conserv
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4 RNCPT 8
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Nomoto K.;
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SEQUENCE
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Fernandes J.M.O., Kemp G.D., Molle G., Smith V.J.;
Farnandes J.M.O., Kemp G.D., Molle G., Smith V.J.;
Antimicrobial properties of a histone H2A-like protein from skin secretions of rainbow trout, Oncorhynchus mykiss.";
Submitted (APR-2002) to the SWISS-PROT data bank.
--- FUNCTION: Has antibacterial activity against Gram-positive
                                                                                                                                                                                                                             Vipera aspis (Aspic viper).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
Viperidae; Viperinae; Vipera.

NCBI_TaxID-8706;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Histone H2A (Fragment).
Oncorpynchus mykiss (Rainbow trout) (Salmo gairdneri).
Eukaryota: Metazoa: Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
                                                                                                                                                                                                                                                                                                                               Komori Y., Sugihara H.; "Characterization of a new inhibitor for angiotensin converting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                     ó
                                                                                                                                                                                                                                                                                                                                                  enzyme from the venom of Vipera aspis aspis.;
Int. J. Blochem. 22:567-771(1990).
-!- FUNCTION: THIS PEPTIDE BOTH INHIBITS THE ACTIVITY OF THE ANGIOTENSIN-CONVERTING ENZYME AND ENHANCES THE ACTION OF BRADYKIMIN BY INHIBITING THE KINASES THAT INACTIVATE IT.
IT ACTS AS AN INDIRECT HYPOTENSIVE AGENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 18; DB 1; Length 10; Pred. No. 3.3e+03;
                            Score 18; DB 1; Length 9;
Pred. No. 1.1e+05;
3; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                          PYRROLIDONE CARBOXYLIC ACID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4; Indels
                                                                                                                                                                      01-JUL-1993 (Rel. 26, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
01-FEB-1994 (Rel. 28, Last annotation update)
Bradykinin-Poctentiating peptide (Angiotensin-converting enzyme inhibitor).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      3BA827C327686773 CRC64;
          1F49087042DB41BB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12 AA.
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                                                    3; Mismatches
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                                                                                                                                                                                                                                                                                                                    MEDLINE-90382616; PubMed-2169439;
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                              20.2%;
37.5%;
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9 9
9 AA; 1041 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4; Conservative
                                                     3; Conservative
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                                                                                                                                                     STANDARD;
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Best Local Similarity
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2 YTYVIGRG 9
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P83327;
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H2AX_ONCMY
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-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed by the venom duct.
-!- SIMILARITY: BELONGS TO THE A-SUPERFAMILY OF CONOTOXINS. ALPHA-TYPE
bacteria and antifungal activity against S.cerevisiae.
-:- SUBUNIT: The nucleosome is an octamer containing two molecules of H2A, H2B, H3, and H4; which wrap approximately 146 bp of DNA.
-:- SUBCELIULAR LOCATION: Nuclear.
-:- MASS SPECTROWETRY: MW-13639; METHOD-MALDI.
-:- SIMILARITY: BELONGS TO THE HISTONE H2A FAMILY.
InterPro; IPR002119; Histone H2A.
PROSITE: PS00046; HISTONE_H2A, PARTIAL.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Three-dimensional solution structure of alpha-conotoxin MII by NMR
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MEDLINE-99060038; PubMed-9843366;
Hill J.M., Oomen C.J., Miranda L.P., Bingham J.-P., Alewood P.F.,
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Biochemistry 37:15621-15630(1998).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metažoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBL_TaxID=6492;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 12;
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Pred. No. 3.9e+03;
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15-JUN-2002 (Rel. 41, Last annotation update)
Alpha-conotoxin MII (M2).
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J. Biol. Chem. 271:7522-7528(1996)
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12 AA; 1202 MW;
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PDB; 1M2C; 13-JAN-99
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MEDLINE=88058932; PubMed=3680228;

Cruz L.J., de Santos V.,

Gray W.R., Olivera B.M.,

"Invertebrate vasopressin/oxytocin homologs. Characterization of peptides from Conus geographus and Conus straitus venoms.";

J. Biol. Chem. 262:15821-15824(1987).
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1. SUBCELLUIAR LOCATION: Secreted.
1. SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1988 (Rel. 09, Created)
15-JUN-1988 (Rel. 09, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Lys-conopressin G.
Conus geographus (Geography cone).
Eukaryota; Metazoa; Mollusca; Gastropoda;
Neodastropoda; Conoidea; Conidae; Conus.
Postsynaptic neurotoxin; Neurotoxin; Toxin; Acetylcholine receptor inhibitor; Amidation; 3D-structure. DISULFID 2 8 16 16 AMIDATION.

SEQUENCE 16 AA; 1716 MW; 282AEF190166CAF9 CRC64;
                                                                                                                                                                                                                                             Score 18; DB 1; Length 16;
Pred. No. 5.1e+03;
0; Mismatches 3; Indels
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        AMIDATION.

        SEQUENCE
        9 AA; 1037 MW; D4FC276EB4540059 CRC64;

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InterPro; IPR000981; Neurhyp_horm.
Pfam; PF00220; hormone4; 1.
PROSITE; PS00264; NEUROHYS_HORM; 1.
Hormone; Amidation.
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Best Local Similarity 57.1%;
Matches 4; Conservative
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Search completed: December 4, 2002, 13:31:33 Job time: 11 secs

4 RNCP 7

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Q9tqq5 bos taurus 008979 mus musculu Q9qvf7 rattus sp. Q8rmi8 enterococcu Q991c3 rattus sp. Q9ps22 xenopus lae P82222 pisum sativ P87540 bariey mild Q88400 simian t-ly

Q9uwgl pyrococcus, Q9r5al micrococcus Q9uc85 homo sapien

Q9TQQ5 Q08979 Q088M18 Q9P3C3 Q9PS322 P82322 P82322 P82322 P82322 Q9PS400 Q9UWG1 Q9PXC5 Q9PXC5 Q9PXC5 Q9PXC6 Q9PXC6

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(without alignments)
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GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. sp_rvirus:*
sp_bacteriap:*
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sporganelle:*
sp_phage:*
sp_plant:*
sp_rodent:*
sp_rodent:*
sp_vinus:*
sp_vertebrate:*
sp_unclassified:*

10: 112: 13: 14: 16:

SUMMARIES

th DB ID 16 4 09UD46 16 4 09UD47 16 4 09UD47 16 4 09UD45 16 1 09PE44 15 2 09PE56 15 1 06PE56 15 11 06E563 16 4 09IO33	Length DB 15 4 16 4 16 4 16 1 15 1 15 1 15 1 16 1 16 1	Query Match Length DB ID 32.6 16 4 09U046 31.5 16 4 09U045 29.2 16 13 09PR24 27.0 15 11 062531 27.0 16 4 016033 27.0 16 4 016033	Length DB 15 4 16 4 16 4 16 4 16 13 15 2 15 1
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01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UNN-2000 (TrEMBLrel. 14, Last annotation update)
Insulin-like growth factor receptor alpha subunit (Fragment).

15 AA.

PRT;

PRELIMINARY;

Q9UCB9; Q9UCB9

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113 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	T 1 09UD46 PRELIMINARY; PRT 09UD46; DOUGHS; 01-MAY-2000 (TrEMBLrel. 13, Last 01-MAY-2000 (TrEMBLrel. 13, Last 01-JUN-2000 (TrEMBLrel. 14, Last Gamma-interferon (Fragment). HOMO Sapiens (Human). Eukaryota; Metazoa; Chordata; Cra Mammalia; Eutheria; Primates; Cat NCBI_TaxID=9606; [1] SEQUENCE FROM N.A. MEDLINE=95038487; PubMed=7951030; SMLTONOA O.Iu., Tat'kov S.I., Pet Sandakhchiev L.S.; "[Mutant human gamma-interferons Properties]."; Akad. Nauk 337:405-406(1994	ENCE atch cal
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Homo sapiens (Human)

Busaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

NCBI_TaxID=9606;
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Eukaryota, Metazoa: Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
MEDLINE=95038487; PubMed=7951030;
Sm.TrBova O.lu., Tat'kov S.I., Petrenko V.A., Il'ichev A.A.,
Sandakhchiev L.S.;
[Mutant human gamma-interferons with varied C-termini and their
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "[Mutant human gamma-interferons with varied C-termini and their properties].";
                                                                                                         "Characterization of human placental insulin-like growth factor-l/insulin hybrid receptors by protein microsequencing and purification."

Blochemistry 32:13531-13536(1993).

SEQUENCE IS AA; 1701 MW; 898F4684F8BB4006 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
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                                                                        MEDLINE-94079885; PubMed=8257688;
Kasuya J., Paz I.B., Maddux B.A., Goldfine I.D., Hefta S.A.,
Fujita-Yamaguchi Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE=95038487; PubMed=7951030;
Smirnow O.Lu., Tat'Kov S.I., Petrenko V.A., Il'ichev A.A.,
Sandakhchiev L.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 28; DB 4; Length 16;
Pred. No. 4.5e+02;
2; Mismatches 0; Indels
                                                                                                                                                                   31.5%; Score 28; DB 4; Length 15; 33.3%; Pred. No. 4.2e+02; 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2CF6C0D620BA84CB CRC64;
                                                                                                                                                                                                                                                                                                                            01-WAY-2000 (TrEMBLrel. 13, Created)
01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
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Local Similarity 71.4%;
les 5; Conservative
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Matches 4; Conservative
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                                                                                                                                                                                                                         5 LFKGQGCPSTHV 16
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5 SQMLFRG 11
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Q9UD45;
                                                                   SEQUENCE
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Arciero D.M., Hooper A.B.;
"Hydroxylamine oxidoreductase from Nitrosomonas europaea is a multimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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Subaryota: Metazoca: Chordata: Craniata; Vertebrata: Euteleostomi;
Lepidosauria: Squamata: Scleroglossa; Serpentes; Colubroidea;
Viperidae; Crotalinae; Bothrops.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=94002075; PubMed=8399228;
Zingall R.B., Jandrot-Perrus M., Guillin M.C., Bon C.;
Zingall R.B., Jandrot-Perrus M., Guillin M.C., Bon C.;
"Bothrojaracin, a new thrombin inhibitor isolated from Bothrops
jararaca venom: characterization and mechanism of thrombin
inhibition.";
Biochemistry 32:10794-10802(1993).
SEQUENCE I6 AA; 1835 MW; 704C67ClAAFC9ABO CRC64;
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Pred. No. 1e+03;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                           Length 16;
                                                                                                                          0; Indels
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J. Biol. Chem. 268:14645-14654(1993).
HSSP; Q50925; IFGJ.
InterPro; IPR000345; CytC_heme_bind.
PROSITE; PS00190; CYTCCHROME_C; UNKNOWN_1.
SEQUENCE 15 AA; 1687 MW; 983D4B8A13698849 CRC64;
Dokl. Akad. Nauk 337:405-406(1994).
SEQUENCE 16 AA; 2006 MW; 2CF6D1938CCA84CB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UN-2001 (TrEMBLrel. 17, Last annotation update)
Hydroxylamine oxidoreductase (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                  01-NAY-2000 (TIEMBLrel. 13, Created)
01-NAY-2000 (TIEMBLrel. 13, Last sequence update)
01-NAY-2000 (TIEMBLrel. 13, Last annotation update)
BOTHROJARACIN (Fragment).
                                                                           Score 26; DB 4;
Pred. No. 1e+03;
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nitrosomonas europaea.
Bacteria; Proteobacteria; beta subdivision;
Ammonia-oxidizing bacteria; Nitrosomonas.
                                                                                                                                                                                                                                                                                                                                          16 AA.
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100.0%; Pred
0; N
                                                                             29.2%;
50.0%;
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                                                                                                    Best_Local Similarity 50.0
Matches 4; Conservative
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Best Local Similarity
.-hac 5; Conserva
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Best Local Similarity
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5 SEMLFRGR 12
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us-09-754-004-1.closed.rspt

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Created)
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                                                                                        PRT;
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12 12
12 AA; 1269 MW;
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ilarity 66.7%;
Conservative
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            8 GQGCPSTHV 16
                                 4 GPSCPAGEV 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Edwards M.J., Wenstrup R.J., Byers P.H., Cohn D.H.; "Recurrence of lethal osteogenesis imperfecta due to parental mosatcism for a mutation in the COLIA2 gene of type I collagen. The mosatc parent exhibits phenotypic features of a mild form of the
                                                                                                                                                                                                                                                                                       Mamm. Genome 5:349-355(1994).
-!- SIMILARITY: TO OTHER EF-HAND CALCIUM BINDING PROTEINS, AND MORE SPECIFICALLY TO S-100/CABP LIKE PROTEINS.
EMBL; U05696; AAA61936.1; -- Calcium-binding; Placenta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                            "Genetic mapping of 40 cDNA clones on the mouse genome by PCR.";
                                                                                              01-JUN-1998 (TrEMBLrel. 06, Created)
01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-JUN-1999 (TrEMBLrel. 12, Last annotation update)
Placental calcium-binding protein (1842) (PEL98) (MTS1 protein)
(Metastatic cell protein) (Fragment).
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Pred. No. 2.3e+03;
1; Mismatches 4; Indels
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Pred. No. 2.1e+03;
1; Mismatches 0; Indels
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16 Aa; 1423 MW; 1475AAA225155656 CRC64;
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Last annotation update)
                                                                           15 AA.
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STRAIN=SPRET/EI;
MEDLINE=94319082; PubMed=8043949;
KO M.S., Wang X., Horton J.H., Han
                                                                                                                                                                 Mus spretus (Western wild mouse).
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75.0%;
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Similarity 44.4%;
4; Conservative
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                                                                           PRELIMINARY;
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Matches 4; Conserv
                    1 KEVGCIDCHV 10
7 KGQGCPSTHV 16
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"Q/R RNA editing of the AMPA receptor subunit GluR2 transcript evolves
no later than the appearance of cartilaginous fishes.";
Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AF350052; AAL57194.1; ...
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Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
Cichlidae; Oreochromis.
                                                                                                                                                                                                                             Oreochromis mossambicus (Mozambique tilapia) (Tilapia mossambica).
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Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Rana,
NCBI_TaxID=8400;
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Pred. No. 2.2e+03;
0; Mismatches 2; Indels
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                                                             01-MAR-2002 (TrEMBLrel. 20, Created)
U-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
AMPA receptor subunit 2 alpha (Fragment).
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Last annotation update)
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Pred. No. 2.6e+03;
0; Mismatches 2;
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10 AA
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HLA-A2 associated peptide (Fragment).
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80.0%;
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Best Local Similarity
                  Homo sapiens (Human)
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Best Local Similarity
                                                                          NCBI_TaxID=9606;
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Kung S.-S., Chen C.-C., Chen Y.-C., Chen B.-Y., Lin W.-H., Chow W.-Y.;

Kung S.-S., Chen C.-C., Chen Y.-C., Chen B.-Y., Lin W.-H., Chow W.-Y.;

"Q/R RNA editing of the AMPA receptor subunit GluR2 transcript evolves
no later than the appearance of cartilaginous fishes.";

Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AF350054; AAL57196.1; -.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Elasmobranchii; Squalea; Squaloidei; Squalidae; Squalus.
NCBI_TaxID=7797;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
Petromyzontiformes; Petromyzontidae; Petromyzon.
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Pred. No. 2.6e+03;
0; Mismatches 2; Indels
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Last annotation update)
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
Lectin 30 kDa subunit (Fragment).
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01-MAR-2002 (TrEMBLrel. 20, Last an
AMPA receptor subunit 2 (Fragment).
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"HLAA2 molecules in an antigen-processing mutant cell contain signal
sequence-derived peptides ";
Nature 356:443-446(1992).
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The amino acid sequence of the 9 kba polypeptide and partial amino acid sequence of the 20 kba polypeptide of mitochondrial NADH:ubiquinone oxidoreductase.";
J. Biochem. 110:575-582(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mitochondrion.
Watszyota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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01-NoV-1996 (TrEMBLrel. 01, Last sequence update)
01-NoV-1996 (TrEMBLrel. 19, Last annotation update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Dinitrogenase reductase (Fragment).
Azospirillum brasilense.
Bacteria: Proteobacteria; alpha subdivision; Rhodospirillaceae;
Azospirillum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
NADH:ubiquinnone oxidoreductase (Complex I) iron-sulfur protein
fraction 20 kDa polypeptide peptide T-9 (Fragment).
Bos taurus (Bovine).
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13 AA; 3E111BA716EA1768 CRC64;
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OX NCBL_TaxID=192;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=SP7;
RX MEDLINE=92250433; PubMed=1577701;
RX MEDLINE=92250433; PubMed=1577701;
RT "Cloning, sequencing, mutagenesis, and functional characterization of rar and dra6 genes from Azospirillum brasilense.";
RT "Cloning, sequencing, mutagenesis, and functional characterization of RT "Cloning, sequencing, mutagenesis, and functional characterization of RT "La and dra6 genes from Azospirillum brasilense.";
RT "Lon Bacteriol. 174:3364-3369(1992).
BR EMBL; M87319; AAA2182.1; -...
FT NON_TER 14 AA. 1485 MW; DOF9B16263390219 CRC64;
SQ SEQUENCE 14 AA. 1485 MW; DOF9B16263390219 CRC64;
AQUETY MATCh 24.7%; SCORE 22; DB 2; Length 14;
Batches 3; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 4 VLFKGGGC 11
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Db 5 IFFEKPGC 12
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Search completed: December 4, 2002, 13:32:08 Job time : 30 secs

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December 4, 2002, 13:24:34; Search time 34 Seconds (without alignments) 62.706 Million cell updates/sec
GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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		Description		Tumour necrosis fa	Tumour necrosis fa	h-TNF (54-68). Sy	Tumour necrosis fa	TNF alpha peptide					
SUMMARIES		ID		AAR06782	AAR06787	AAR87687	AAR06781	AAR06786	AAR06783	AAR06785	AAR06784	AAR05473	AAW35497
		DB	:	11	11	16	11	11	11	11	11	11	18
		Query Match Length DB ID		14	13	15	12	12	13	13	12	8	12
	ф	Query Match		66.3	59.6	58.4	55.1	55.1	55.1	55.1	50.6	44.9	41.6
		Score	1 1 1 1 1 1 1	59	53	52	49	49	49	49	45	40	37
		Result No.		П	7	е	4	S	9	7	8	σ	10

Peptide(s) derived from tumour necrosis factor (TNF) - useful against neoplastic and auto-immune disorders, infections, inflammations and transplant rejection reactions.

WPI; 1990-186578/25.

Gamma-interferon-r	Human tumour necro	Human peptide #187	PDZ domain binding	Chemotactic peptid	Human platelet gly	Mimotope capable o	Novel human diagno	N-terminal of SR p	HLA B4403 binding	Human TADG-12 immu	Tumour necrosis fa	Tumour necrosis fa	Conserved sequence	TNF/Fas ligand fam	Cysteine noose lib	Transforming growt	Synthetic peptide			Sequence encoded b	Transforming growt	Peptide remaining	Tryptic peptide fr	Unglycosylated rec	Wild type human in	Protease binding s	Protease binding s	Protease binding s	Cell death protect	Peptide sequence o	Human complementar		h-TNF (70-80) anal	Cytokine derived p
5 AAP40302	19 AAW47898		m	16 AAY07525		19 AAW71794	7	23 ABB77735	21 AAB32359	22 AAU69041	20 AAY31887		21 AAB18620		20 AAY08356	21 AAY93089			18 AAW35775	•	21 AAY93088	æ		8	6		~	2	m	m	c,	AAR876	ဖ	18 AAW35449
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ALIGNMENTS

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10: /SIDS2/gcgdata/geneseqy-emb1/AA1989.DAT:*
10: /SIDS2/gcgdata/geneseqy-emb1/AA1989.DAT:*

A_Geneseq_101002:*

Database :

/SIDS2/gcgdata/geneseg/genesegp-embl/AA1990.DAT:*/SIDS2/gcgdata/geneseg/genesegp-embl/AA1991.DAT:*/SIDS2/gcgdata/geneseg/genesegp-embl/AA1992.DAT:*

/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1993.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1994.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1997.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1997.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1997.DAT:*/SIDS2/gcgdata/geneseqy/geneseqp-embl/AA1997.DAT:*/SIDS2/gcgdata/geneseqy/geneseqp-embl/AA1997.DAT:*/SIDS2/gcgdata/geneseqy/geneseqp-embl/AA1997.DAT:*

/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT:* /SIDS2/gcgdata/geneseg/geneseqp-embl/AA2000.DAT:*/SIDS2/gcgdata/geneseg/geneseqp-embl/AA2001.DAT:*/SIDS2/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:*

Bohm HJ, Daum L, Haupt A, Schmied B, Walker N, Zechel JC; Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection. Tumour necrosis factor derived peptide. AAR06782 standard; protein; 14 AA. 88DE-3841762. 88DE-3841762. 23-OCT-1990 (first entry) (BADI) BASF AG. 12-DEC-1988; 12-DEC-1988; DE3841762-A. 13-JUN-1990. Synthetic. AAR06782; RESULT 1 **AAR06782**

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AAR87687 standard; peptide; 15 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (PEPT-) PEPTIDE TECHNOLOGY LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93AU-0044664.
                                                                                                                                                                                                                                                                                                                                                                                                59.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91AU-0074762.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91AU-0074762.
                                                                                                                                                                                                                                                                                                                                                                                                                  83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                Query Match 59.6
Best Local Similarity 83.3
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rathjen DA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5 LFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 LFKGQGYPPTHV 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1995-115742/16.
                                                                                                                                                                                                                                                                                                                                                      13 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              h-TNF (54-68)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-MAY-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ferrante A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AU9344664-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-MAR-1995.
                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR87687;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR87687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
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δŏ
                                                                                                 Definition of the property of 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide(s) derived from tumour necrosis factor (TNF) - useful against neoplastic and auto-immune disorders, infections, inflammations and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This peptide is an example of a highly generic sequence of the formula $x\text{-}A\text{-}B\text{-}PIO\text{-}E\text{-}Y$
                                         residue L1 is attached Ac and to residue L14 NH2.
Is peptide is an example of a highly generic sequence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zechel JC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 59; DB 11; Length 14; Pred. No. 0.024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Schmied B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tumour necrosis factor derived peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 53; Page 12; 13pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR06787 standard; protein; 13 AA.
Example 9; Page 8; 13pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transplant rejection reactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66.3%;
91.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Haupt A,
                                                            peptide is an example or x-A-B-Pro-E-Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88DE-3841762
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LFKGQGTPSTHV 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5 LFKGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1990-186578/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
es 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bohm HJ, Daum L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 14 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BADI ) BASF AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                formula
A= G, A or S;
B= C, Y or T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-OCT-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-DEC-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-DEC-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-JUN-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DE3841762-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR06787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                   This pep
formula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 2
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AAR0678

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E S Or P;

X = G NH-CHW-CO-W, G-R-NH-CHM-CO Or G-R-NH-CHM-CO-W;

X = G NH-CHC-COZ, V-NH-CHQ-COZ, NH-CHQ-CO-U-Z or V-NH-CHQ-CO-U-Z;

G = H or an amino protecting group;

Z = OH, NH2 or carboxy protecting group; or G and Z together are a covalient bond or the gp. CO(CH2)aNH; a=1-12;

R, U, V and W= peptide chains of 1-4 naturally occuring alpha aminoacids;

M and Q = H, isopropyl, sec-butyl, phenyl, 1-hydroxy-ethyl, 3-indolyl- or 4-inidazoly-methyl or (CH2)br; b=1-6;

A = OH, MeO, MeS, isopropyl, phenyl (lopt. 4-OH, substd), mercapto, amino, carboxy, carbamoyl or quanidino; or

M ans O together are (CH2)c-S-S-(CH2)d, (CH2)eCO NH-(CH2)f or

C (CH)2eNH CO(CH2)gNH CO(CH2) f; c and d=1-4; e and f=1-6; g=1-12.

The peptide is a low mol. wt. derly. of TNF.

See also DE3841753-55, DE3841759, DE3841761-64, DE3841767-68.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TNF; tumour necrosis factor; neutrophil; superoxide; inflammation; ADB, cancer; rheumatoid arthritis; ARDS; cystic fibrosis; therefore, a factorial sis; TB; Crohn's disease; sarcoidosis; leprosy; syphilis; malaria; adult respiratory distress syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 11; Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 0.18;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 15; 51pp; English.
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Gaps

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Indels

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Mismatches

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Conservative
             7 KGQGCPSTHV 16
                                                                                                                                                                                            12-DEC-1988;
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                                                                                                                                                                    DE3841762-A
                                                                                                                                                                                13-JUN-1990
 6
                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                   AAR06786;
 Matches
                                           RESULT 5
                                                AAR06786
                                                                    a
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                                                                                                                                                                                                                                                             Peptide(s) derived from tumour necrosis factor (TNF) - useful against neoplastic and auto-immune disorders, infections, inflammations and
                                     Gaps
                                                                                                                                                                                                                                                                                               To residue K1 is attached H and to residue L12 OH. This peptide is an example of a highly generic sequence of the formula X\hbox{-}A\hbox{-}B\hbox{-}Pro\hbox{-}E\hbox{-}Y
                                     ö
                                                                                                                                                                                                                                       Zechel JC;
                                                                                                                                         Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection.
                       58.4%; Score 52; DB 16; Length 15; 100.0%; Pred. No. 0.3; ive 0; Mismatches 0; Indels
above activity and which fit the the generic formula.
                                                                                                                                                                                                                                       Walker N,
                                                                                                                                                                                                                                      Schmied B,
                                                                                                                             rumour necrosis factor derived peptide
                                                                                          AAR06781 standard; protein; 12 AA.
                                                                                                                                                                                                                                                                                    Example 2; Page 7; 13pp; German.
                                                                                                                                                                                                                                                                         transplant rejection reactions
                                                                                                                                                                                                                                       Haupt A,
                                                                                                                                                                                                              88DE-3841762
                                                                                                                  (first entry)
                             Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                 WPI; 1990-186578/25.
                                                        6 YSQVLFKGQG 15
                                                1 YSQVLFKGQG 10
                                                                                                                                                                                                                                     Bohm HJ, Daum L,
                                                                                                                                                                                                                                                                                                                                                                                                                                 12 AA;
             15 AA;
                                                                                                                                                                                                                         (BADI ) BASF
                                                                                                                  23-OCT-1990
                                                                                                                                                                                                              12-DEC-1988;
                                                                                                                                                                         DE3841762-A
                                                                                                                                                                                     13-JUN-1990
                                                                                                                                                             Synthetic.
            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                 Sednence
                                                                                                      AAR06781;
                        Query Match
                                                                                    AAR06783
SXS
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Length 12;

DB 11;

Score 49; DB 1: Pred. No. 0.68;

55.1%; 90.0%;

Query Match Best Local Similarity

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Definition of the period of th
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This peptide is an example of a highly generic sequence of formula X-A-B-\operatorname{Pro}-E-\Upsilon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match 55.1%; Score 49; DB 11; Length 12; Best Local Similarity 90.0%; Pred. No. 0.68; Matches 9; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Haupt A, Schmied B, Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tumour necrosis factor derived peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                          AAR06786 standard; protein; 12 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 47; Page 11; 13pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Misc-difference 12..12
/label=OTHER
/note="Aoc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88DE-3841762.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1990-186578/25.
1 KGQGTPSTHV 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bohm HJ, Daum L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BADI ) BASF AG
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Tumour necrosis factor derived peptide
                                            AAR06785 standard; protein; 13 AA.
                                                                                          (first entry)
                                                                                                                                                                                                                                                                       12-DEC-1988;
                                                                                                                                                                                                                                                 12-DEC-1988;
                                                                                          23-OCT-1990
                                                                                                                                                                                                  DE3841762-A.
                                                                                                                                                                                                                         13-JUN-1990.
                                                                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                      Bohm HJ,
                                                                    AAR06785;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
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AARO6784
ID AARO
                      RESULT 7
                                 AAR06785
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A = G, A or S;

B = C, Y or T;

E = S or P;

X = G-NH-CHM-CO, G-NH-CHM-CO-W, G-R-NH-CHM-CO or G-R-NH-CHM-CO-W;

Y = Z, NH-CHQ-COZ, V-NH-CHQ-COZ, NH-CHQ-CO-U-Z or V-NH-CHQ-CO-U-Z;

G = H or an amino protecting group;

G = N Or S = DG, NH2 or carboxy protecting group;

C = OH, NH2 or carboxy protecting propyl, a=1-12;

M and Q= H, isopropyl, penyl, penyl, 1-hydroxy-ethyl, 3-indolyl- or 4-imidazoly-methyl or (CH2)bT; b=1-6;

T = OH, MeO, MeS, isopropyl, phenyl (opt. 4-OH, substd), mercapto,

C = OH, MeO, MeS, isopropyl, phenyl (opt. 4-OH, substd), mercapto,

C = OH, MeO, MeS, isopropyl, penyl (opt. 4-OH, substd), mercapto,

C = Mino, carboxy, carbamoyl or quanidino; or

M ans Q together are (CH2)c-S-S (CH2)d, (CH2)eco NH-(CH2)f or

C C (CH)SCHH CO(CH2) H; c and d=1-4; e and f=1-6; g=1-12.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           To residue C1 is attached Ac and to residue C13 NH2. This peptide is an example of a highly generic sequence of the formula x\hbox{-}A\hbox{-}B\hbox{-}Pro\hbox{-}E\hbox{-}Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                             Zechel JC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            peptide is a low mol. wt. deriv. of TNF.
also DE3841753-55, DE3841759, DE3841761-64, DE3841767-68
                                                                                                                                                                            Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 49; DB 11; Length 13;
Pred. No. 0.74;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                             Schmied B, Walker N,
                                                                                                                                                    Tumour necrosis factor derived peptide.
                                                                                                                                                                                                                                   Location/Qualifiers
                                                                               AAR06783 standard; protein; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 12; Page 8; 13pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.1%;
90.0%;
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                                                                                                                              (first entry)
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Matches 9; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Z KGQGTPSTHV 11
           1 KGQGTPSTHV 10
KGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                           Bohm HJ, Daum L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13 AA;
                                                                                                                                                                                                                                                                                                                                                                     (BADI ) BASF AG
                                                                                                                                                                                                                                        Key
Disulfide-bond
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                                                                                                                              23-OCT-1990
                                                                                                                                                                                                                                                                                                                       12-DEC-1988;
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                                                                                                                                                                                                               Synthetic.
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                                                                                                      AAR06783;
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                                                                      AAR06783
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A=G, A Or S;
B=C, Y or T;
B=C, Y or T;

R=S or P;

X=G-NH-CHM-CO, G-NH-CHM-CO-W, G-R-NH-CHM-CO or G-R-NH-CHM-CO-W;
Y=Z, NH-CHO-COZ, V-NH-CHO-COZ, NH-CHO-COZ, NH-CHO-COZ, NH-CHO-COZ, NH-CHO-COZ, NH-CHO-COZ, NH-CHO-COZ, NH-CHO-COZ, NH-CHO-CO-W-Z;
C=H or an amino protecting group; or G and Z together are a covalent bond or the gp. CO(CH2)aN; a=1-12;
R, U, V and W= peptide chains of 1-4 naturally occuring alpha aminoacids;
M and Q=H, isopropyl, sec-butyl, phenyl, 1-hydroxy-ethyl, 3-indolyl- or 4-imidazoly-methyl or (CH2)BT; b=1-6;
T=OH, MeO, MeS, isopropyl, phenyl (CH2)econ NH-(CH2)F or amino, carboxy, carbamoyl or quandino; or mans Q together are (CH2)C-S-(CH2)d, (CH2)econ NH-(CH2)F or CH2)C-S-(CH2)d, (CH2)econ NH-(CH2)F or CH2)C-S-(CH2)GH or CH2)GH or CH2)GH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide(s) derived from tumour necrosis factor (TNF) - useful against neoplastic and auto-immune disorders, infections, inflammations and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   zechel JC;
Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Schmied B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               neoplastic and auto-immune disorders,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   transplant rejection reactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88DE-3841762.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1990-186578/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7 KGQGCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Daum L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13 AA;
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Tumour necrosis factor derived peptide
                                                                                                                                                                                                                                                                                                         WPI; 1990-186578/25.
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                                                                                                                                                                                                                                                                             Daum L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                · 8 GOGCPSTH 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GQGTPSTH 8
                                                                                                                                                                                                                                             (BADI ) BASF AG
                                                                                                                                                                                                             12-DEC-1988;
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                                                                                                             DE3841762-A.
                                                                                                                                               13-JUN-1990
                                                                                Synthetic.
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                                                                                                                                                                                                                                                                             Bohm HJ,
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AAW35497
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                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide(s) derived from tumour necrosis factor (TNF) - useful against neoplastic and auto-immune disorders, infections, inflammations and
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                                                                                                                                                                                                                                                                                                                                                            Zechel JC;
                                                                                                           Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 45; DB 11; Length 12; Pred. No. 2.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
                                                                                                                                                                                                                                                                                                                                                          Schmied B, Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Mismatches
                                                                             Tumour necrosis factor derived peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 37; Page 10; 13pp; German.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          transplant rejection reactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
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                                               23-OCT-1990
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               AAR06784;
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Matches
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ID AARO
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Definition of the control of the con
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide(s) derived from tumour necrosis factor (TNF) - useful against neoplastic and auto-immune disorders, infections, inflammations and transplant rejection reactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             zechel JC;
Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection.
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Pred. No. 7.8e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schmied B, Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW35497 standard; peptide; 12 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 1; Page 7; 13pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44.9%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Haupt A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88DE-3841762.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88DE-3841762.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-APR-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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82JP-0228115.
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                                                       WPI; 1984-210450/34
                                                                                                                                                                                                         13 AA;
                                                                                                                                                                                                                                                                               1 YSQVLFKGQ 9
                                                                                                                                                                                                                                                                                             |||:||:||:
1 YSQMLFQGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9748725-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-JUN-1997;
          28-DEC-1982;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-0CT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-JUN-1996;
06-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                               09-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                        AAW47898;
                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                         RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                        ÓΥ
                                                                                                                                                                                                                                                                                                    Dp
                                                                                                                                                                                                                                                  through a linker to a solid phase, forming a complex of (A)-solid phase.

through a linker to a solid phase, forming a complex of (A)-solid phase.

where (A) comprises 10-50 amino acids capable of forming a secondary

curture in a benign buffer after liberation from the solid phase, and

further the (A)-solid phase complex comprises an immunogenic substance

and/or an immune mediator coupled on (A). The present sequence

represents a peptide used in an example from the present invention. An

(A)-solid phase complex can be used as a scaffold for the production of

chemical derivatives, characterised by covalently attaching molecules at

attachment points. Alternatively (A) is used as a scaffold peptide for

the incorporation into an Immunostimulating Complex (Iscom) resulting an

(A)-iscom complex which is used for the chemical coupling of antigenic

substances in an aqueous solution by conjugation. (A) derivatised with

one or more peptides having fibronectin., laminin. or vitronectin.like

binding activities can be used for the promotion of cell-attachment to

plastic surfaces, in particular to inhibit tumour growth and metastasis,

and for promotion of wound healing. Also a derivatised (A) can be used

for the selection of specifically-binding aptamers or as a diagnostic

agent. Such diagnostic (A) molecules could be used to detect molecules

cherical course of promotion of preparancy or of a disease, such as an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                 Non-dendritic peptide carrier linked to a solid phase - useful as a diagnostic agent and as a scaffold for production of chemical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ·;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 37; DB 18; Length 12;
Pred. No. 45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41.6%; Scc...
100.0%; Pred. No....
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    infectious, autoimmune or cancerous disease.
                                                                                                                                                                                                                                Example 7; Page 99; 262pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAP40302 standard; Peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gamma-interferon-related peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IFN; antibody; antigen; hapten.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82JP-0228115. •
                                                          97WO-DE00146
                                                                                 96DK-0000398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-JUL-1992 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6; Conservative
                                                                                                                                 Heegaard PMH, Jakobsen
                                                                                                         (PEPR-) PEPRESEARCH AS
                                                                                                                                                         WPI; 1997-512645/47.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11 CPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CPSTHV 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JP59122446-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-DEC-1982;
          WO9738011-A1
                                                                                 03-APR-1996;
                                                         03-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-JUL-1984
                                16-0CT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAP40302;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAP40302
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The present sequence represents a peptide derived from a human tumour necrosis factor peptide. The peptide can have neutrophil and/or monocyte/macrophage stimulatory activity. The peptide is derived from the sequence of tumour necrosis factor (TNF)-derived peptide 419 (PSTHVLITHTI; see A074762/91 and 44664/93). It can have improved properties such as increased potency, extended in vivo half life or, particularly, specificity of action. It can have neutrophil stimulatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                Peptide with partial amino acid sequence of gamma interferon - used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tumour necrosis factor derived peptide(s) having neutrophil and-or monocyte-macrophage stimulatory activity - used for treating e.g. infections, immunosuppression or cancers
                                                                                                                                                                                                                                                                                                  pe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; tumour necrosis factor; neutrophil; monocyte; macrophage; stimulatory activity; immunosuppressant; cancer; infection.
                                                                                                                                                                                                                                                                                     The N-terminal Tyr residue is optional. The peptide hapten can bound to a carrier and used to prepare IFN gamma-specific antibodies. It may also be used in radio- or enzyme immunoassays. See also AAP40301.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 35; DB 5; Length 13;
Pred. No. 98; 0; Indels
; Mismatches 0; Indels
                                                                                                                                                                      to prepare specific antibody for gamma-interferon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human tumour necrosis factor derived peptide 1089.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sleigh JM, Widmer F;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW47898 standard; peptide; 13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 4; Page 44; 65pp; English.
                                                                                                                                                                                                                                 Claim 1; Page 1; 11pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39.3%;
66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97WO-AU00395.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96AU-0000610.
96AU-0002165.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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Best Local Similarity 66...
6; Conservative
(SAKA ) OTSUKA PHARM KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mack PO, Rathjen DA,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to oligonucleotides (see AAL26793-AAL34659) encoding polymorphic variants of proteins related to amylases, amyloid proteins, anglopoietin, apoptosis related proteins, cadherin, cyclin,
                                                                                        fibrosis, community acquired pneumonia, meningitis, Mycobacteria, Chlamydia, Brucellae, Francisella, Pasteurellosis, Legionellosis, Histoplasmosis, Listeriosis, Pneumocystis carnii, Trypanosoma cruzi, coccidian parasitical infection, an inherited primary neutropenic disorder, an inherited primary defect of phagocytic cell function, an inherited secondary defect of phagocytic cell function, an acquired administration of immunosuppression due to the administration of immunosuppressive drugs, and other bacterial, fungal, viral or protozoan infection, infectious monouncleosis, paroxysomal nocturnal, haemoglobinuria, leukaemia, lymphoma, myelofibrosis, or graft
  activity (class 1), equal neutrophil and monocyte/macrophage stimulatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Polymorphic nucleic acids encoding e.g. amylases, cyclins, polymerases, oncogenes and histones, useful for diagnosing and treating, e.g. cancer, autoimmune diseases and infections -
                activity (class 2), or preferentially enhanced monocyte/macrophage stimulatory activity (class 3). It can be used for the treatment or prevention of infections. In particular, it can be used for treating AIDS, cancer, diabetes, nosocomial infection, tuberculosis, cystic
                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                 Score 34; DB 19; Length 13;
Pred. No. 1.4e+02;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human peptide #1877 encoded by a SNP oligonucleotide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 4079; 4143pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAM98602 standard; Peptide; 14 AA.
                                                                                                                                                                                                                                                                                                                                                                 38.2%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-DEC-1999; 99US-0173419.
27-DEC-2000; 2000US-0173419.
                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 85./...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-DEC-2000; 2000WO-US35498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-JAN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shimkets RA, Leach M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-465210/50.
                                                                                                                                                                                                                                                                                         versus host disease
                                                                                                                                                                                                                                                                                                                             13 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                              10 GCPSTHV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ||||||
1 GAPSTHV 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40200147944-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-JUL-2001.
                                                                                                                                                                                                                                                                                                                               Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; PDZ domain; WW domain; rat; cow; mouse; fruitfly; protein therapy; gene therapy; PDZ-mediated disease; inward potassium channel; WBP; dimer inhibitor peptide; carboxylate binding loop.
polymerase, oncogenes, histones, kinases, colony stimulating factors, complement related proteins, cytochromes, kinesins, cytokines, interferons, interleukins, G-protein coupled receptors and thioesterases. The present sequence is a peptide encoded by one such oligonuclectide. The oligonuclectides and the peptide encoded by them may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate expression of the proteins listed above. Disorders that may be prevented, diagnosed and/or treated include multifactorial diseases with a genetic component, such as autoimmune diseases (e.g. rheumatoid arthritis, multiple sclerosis, diabetes, systemic lupus erythromatosus and Grave's disease), inflammation, cancer (e.g. cancers of the bladder, brain, breast, colon and kidney, leukaemia), diseases of the nervous system and an infection of pathogenic organisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to methods for identifying polypeptides comprising PDZ domains, and their encoding nucleic acids. The sequences are used to identify modulators of their expression, function and activity, for use in the diagnosis and treatment of PDZ related disorders. Antibodies against the proteins and cells that produce them may be used for the treatment of PDZ-mediated disease states. Sequences AARG87843-AAUB7974 represent proteins containing PDZ domains, fragments of these proteins and other related peptides used in the methods of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Methods for identifying polypeptides comprising PDZ domains, the polypeptides and their encoding nucleic acids, useful for the diagnosis and treatment of PDZ related disorders -
                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                   Length 14;
                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                               37.1%; Score 33; DB 22; L 100.0%; Pred. No. 2.1e+02; ative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU87888 standard; Peptide; 12 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Uveges A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (AXCE-) AXCELL BIOSCIENCES CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Examples; Fig 5; 225pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PDZ domain binding peptide #21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-JUL-2000; 2000US-221215P. 28-NOV-2000; 2000US-0723810.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-JUL-2001; 2001WO-US23269.
                                                                                                                                                                                                                                                                                           Query Match
Query Match
Best Local Similarity 100.uv
Best Local Similarity 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pirozzi G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2002-195842/25.
                                                                                                                                                                                                                                                                           14 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40200207751-A1.
                                                                                                                                                                                                                                                                                                                                                                                              11 CPSTH 15
                                                                                                                                                                                                                                                                                                                                                                                                                  1 CPSTH 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAU87888;
                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAU87888
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12 AA;

Sequence

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                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New high affinity peptide-based compsns. for diagnosis and therapy in which peptide has at least two biological-functional domains and
                                                                                                                                                                                                                                                        Chemotactic, diagnostic, metal-binding; polyvalent; linked;
branched; repeat; neutrophil accumulation; infection; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                              'note= "This residue is joined to another
peptide of the same identity via a linking
group connecting the epsilon-COOH groups in each
of the Glu residues"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The patent discloses a high affinity peptide-based pharmaceutical
                           ;
0
Score 32; DB 23; Length 12;
Pred. No. 2.6e+02;
                           Indels
                                                                                                                                                                                                                                Chemotactic peptide linked to metal-binding domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SD;
                                                                                                                                                                                                                                                                                                                                                /label= Biological_function
/note = "Chemotactic peptide"
                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                 /note = "Chemotactic pepti
5..8
/label= metal_ion-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sharma
                                                                                                                                                                                                                                                                                                                                                                                                                    'note= "N-formyl-Met"
                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 37; 60pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BA,
                                                                                                                                                  AAY07525 standard; peptide; 8 AA.
                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rhodes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94US-0269929.
93US-0087219.
92US-0840077.
95US-0484184.
89US-0391474.
 36.0%;
83.3%;
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                             5; Conservative
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            Best Local Similarity
Matches 5; Conserv
                                                      11 CPSTHV 16
                                                                               5 CPSAHV 10
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02-JUL-1993;
20-FEB-1992;
07-JUN-1995;
09-AUG-1989;
08-AUG-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUL-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    Cross-links
                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                             AAY07525;
 Query Match
                                                                                                                                                                                                                                                                                                                                         Domain
                                                                                                                                                                                                                                                                                                                                                                                Domain
                                                                                                                                    AAY07525
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Gaps
The present sequence represents a chemotactic peptide (a preferred example of a biological function domain) joined to a metal ion binding domain. When bound with metal, this peptide can be used for the detection of sites of neutrophil accumulation for the diagnosis of infection and sterile inflammation.
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                                                                                                              Length 8;
                                                                                                                                        1; Indels
                                                                                                             Score 31; DB 16;
Pred. No. 7.8e+05;
2; Mismatches 1;
                                                                                                                                                                                                                            completed: December 4, 2002, 13:31:16
                                                                                                            34.8%;
62.5%;
                                                                                                                                          Conservative
                                                                                                                             Local Similarity
nes 5; Conserv
                                                                                                                                                                     4 VLFKGQGC 11
                                                                                     8 AA;
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MLFEGGGC ?
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                                                                                                              Query Match
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Matches
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     22222%
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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                   OM protein - protein search, using sw model
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(without alignments) 25.988 Million cell updates/sec December 4, 2002, 13:32:14; Search time 10 Seconds Run on:

US-09-754-004-1 89 1 YSQVLFKGQGCPSTHV 16 Perfect score: Sednence:

Scoring table:

103943 seqs, 16242309 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 16

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

/cgn2_6/ptodata/1/pubpaa/USOB_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
//cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
//cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
//cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*
//cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:* Published_Applications_AA:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	1 Sequence 1, Appli	9	Sequence 46,	S	Sequence 6,	7	Sequence 291		S	10-159 Sequence 159, App			7 Sequence 97,	Sequence 36, A		Sequence 265,	Seguence 16,	Sequence 8, A	
	ID	US-09-754-004-1	US-09-027-287-46	US-09-252-656B-46	US-09-771-415-5	US-09-996-288-6	US-09-796-848A-7	US-09-984-245-291	US-09-253-794-39	US-09-826-29	US-09-826-29	US-09-826-290-163	US-09-916-940-85	US-09-916-940-97	US-10-106-487-36	US-09-158-1	US-09-981-876-265	US-09-747-029A-16	US-09-965-594-8	
	DB	101	10	10	6	6	10	σ	10	6	6	6	10	10	6	10	6	10	10	
	Query Match Length DB	16	11	11	6	6	6	10	11	15	15	15	16	16	σ	80	12	14	15	
æ	Query Match	100.0	33.7	33.7	30.3	30.3	30.3	30.3	29.5	29.2	29.2	29.2	29.2	29.2	28.1	27.0	27.0	27.0	27.0	
	Score		30	30	27	27	27	27	26	26	26	26	26	26	25	24	24	24	24	
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10, 10, 10, 10, 10, 10, 10, 10, 10, 10,	Sequence 95, Appl
944444446666666666666666666666666666666	9 US-09-835-948-95
7.7.0 2.5.5.8 2.5.6.8 2.5.8	٧ / ٠
44 # # # # # # # # # # # # # # # # # #	7 77
01000000000000000000000000000000000000	C #

ALIGNMENTS

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Gaps
Sequence I. Application US/09754004

Patent No. US20020010180A1

GENERAL INFORMATION:

APPLICANT: Marc Feldmann

TITLE OF INVENTION: TNF Alpha Antagonists and Methotrexate

TITLE OF INVENTION: In the Treatment of TNF-Mediated Disease

TITLE OF INVENTION: In the Treatment of TNF-Mediated Disease

TITLE OF INVENTION: In the Treatment of TNF-Mediated Disease

TITLE OF INVENTION: In the Treatment of TNF-Mediated Disease

TITLE OF INVENTION: In the Treatment of TNF-Mediated Disease

TITLE OF INVENTION: In the Treatment of TNF-Mediated Disease

FILE REFERENCE: 2891.1001-026

CURRENT FILING DATE: 1996-08-01

PRIOR FILING DATE: 1996-02-28

PRIOR FILING DATE: 1996-02-28

PRIOR FILING DATE: 1994-03-10

PRIOR FILING DATE: 1993-10-06

PRIOR FILING DATE: 1993-10-06

PRIOR FILING DATE: 1992-10-08
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 89; DB 10;
Pred. No. 1e-08;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 2
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Sc
100.0%; Pr
tive 0;
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Best Local Similarity 100.
Matches 16; Conservative
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ORGANISM: Homo sapien
US-09-754-004-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 1
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RESULT 2 US-09-027-287-46 ; Sequence 46, Application US/09027287A 1 YSQVLFKGQGCPSTHV 16 g

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Gaps

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Sequence 6, Application US/0996288

Sequence 6, Application US/0996288

Patent No. US20020177126A1

GENERAL INVERMINO:
APPLICANT: Young, James
APPLICANT: Scott, Koenig
APPLICANT: Leslie, Johnson
TITLE OF INVERTION: Methods of Adminstering/Dosing Anti-RSV Antibodies for Prophyl
TITLE OF INVERTION: Methods of T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTHER INFORMATION: Description of Artificial Sequence: Amino acid OTHER INFORMATION: sequence of complementarity determining region L3; OTHER INFORMATION: of reference anti-RSV antibody US-09-771-415-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: County, Scott
APPLICANT: County, Scott
APPLICANT: Johnson, Leslie S.
APPLICANT: Huse, William D.
APPLICANT: Huse, William D.
APPLICANT: Watkins, Jeffry D.
TITLE OF INVENTION: Ultra High Affinity Neutralizing Antibodies
FILE REFERENCE: 469201-520
CURRENT APPLICATION NUMBER: US/09/771,415
CURRENT PILING DATE: 2001-01-26
PRIOR FILING DATE: 2001-01-27
NUMBER OF SEQ ID NOS: 26
SEQ ID NOS: 26
SEQ ID NO 5
LENGTH: 9
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30.3%; Score 27; DB 9; Length 9; 55.6%; Pred. No. 8.6e+04; Live 1; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 27; DB 9; Length 9; Pred. No. 8.6e+04; 1; Mismatches 3; Indels
                                0; Indels
Pred. No. 28;
                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/09771415 Patent No. US20020164326A1
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100.08;
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ORGANISM: Artificial Sequence
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Best Local Similarity 55.6%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                    6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION: APPLICANT: Young, James F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT; ORGANISM: Homo sapiens
US-09-996-288-6
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 5; Conserv
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1 FQGSGYPFT 9
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US-09-771-415-5
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US-09-996-288-6
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                                    Matches
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                                                                                                         δλ
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APPLICANT: Ruben, Steven M.
APPLICANT: Ruben, Steven M.
APPLICANT: Zhang, Jun
APPLICANT: Jang, Jun
APPLICANT: Jang, Jun
APPLICANT: Jang, Jun
APPLICANT: Jang, Yifan
APPLICANT: Jang, Yifan
APPLICANT: Jang, Yifan
APPLICANT: Jang, Yifan
APPLICATION NUMBER: US/09/252,656B
CURRENT APPLICATION NUMBER: US 09/02-19
PRIOR FILING DATE: 1998-02-20
PRIOR FILING DATE: 1998-02-20
PRIOR FILING DATE: 1998-02-20
PRIOR FILING DATE: 1998-02-30
PRIOR FILING DATE: 1998-02-30
PRIOR PLILORION NUMBER: US 09/027,287
PRIOR FILING DATE: 1998-01-07
PRIOR FILING DATE: 1996-03-21
PRIOR FILING DATE: 1996-03-22
PRIOR APPLICATION NUMBER: US 60/013,923
PRIOR FILING DATE: 1996-03-22
PRIOR SEQ ID NOS: 61
SCOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
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                                                         APPLICANT: EDNOT, Keinhard
APPLICANT: Yu, Guo-Liang
APPLICANT: Ruben, Stewn M.
APPLICANT: Ruben, Stewn M.
APPLICANT: Ruben, Stewn M.
TITLE OF INVENTION: Apoptosis Inducing Molecule II
FILE REFERENCE: 1488.065004
CURRENT APPLICATION NUMBER: US/09/027,287A
CURRENT FILING DATE: 1998-02-20
EARLIER APPLICATION NUMBER: US 09/003,886
EARLIER FILING DATE: 1998-01-07
EARLIER FILING DATE: 1997-03-21
EARLIER FILING DATE: 1997-03-21
EARLIER FILING DATE: 1996-03-22
EARLIER FILING DATE: 1996-03-31
EARLIER APPLICATION NUMBER: US 60/013,923
EARLIER FILING DATE: 1996-03-22
NUMBER OF ESD ID NOS: 55
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: TNE/Fas Ligand Family Motif US-09-252-6568-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 46, Application US/09252656B Patent No. US20020081647Al GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 33.7
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Ebner, Reinhard
   Patent No. US20020064869A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
US-09-027-287-46
                                           GENERAL INFORMATION:
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6 YSQVLF 11
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LENGTH: 11
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LENGTH: 11
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Gaps

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Gaps

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DB 10; Length 11;

33.7%; Score 30;

Query Match

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Sequence 39, Application US/09253794
Patent No. US200200018750A1
GENERAL INFORMATION:
APPLICANT: HANSEN, Hans J.
ARMOUR, KATHYN I.
ARMOUR, KATHYN I.
TITLE OF INVENTION: CRP-GRAFTED TYPE III ANTI-CEA HUMANIZED MOUSE MONOCLONAL ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30.3%; Score 27; DB 9; Length 10; 100.0%; Pred. No. 79; 0; Indels tive 0; Mismatches 0; Indels
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ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 3000 K Street, N.W., Suite 500
CITY: Washington
STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/09/253,794 FILING DATE: 22-Feb-1999 CLASSIFICATION: <UNKNOWN> PRIOR APPLICATION DATA:
                      PRIOR APPLICATION NUMBER: US 60/048,099
PRIOR FILING DATE: 1997-05-30
PRIOR APPLICATION NUMBER: US 60/048,1352
PRIOR FILING DATE: 1997-05-30
PRIOR FILING DATE: 1997-05-30
PRIOR FILING DATE: 1997-05-30
PRIOR PILING DATE: 1997-05-30
PRIOR PILING DATE: 1997-05-30
PRIOR PLING DATE: 1997-06-05
PRIOR PLING DATE: 1997-06-05
PRIOR PLING DATE: 1997-08-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 QGCP 12
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                                                                                                                                                                                      GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Young, James F.
APPLICANT: Johnson, Leslie S.
APPLICANT: Johnson, Leslie S.
APPLICANT: Wu, Herren
APPLICANT: Watkins, Jeffry D.
TITLE OF INVENTION: High Potency Recombinant Antibodies and Methods of
TITLE OF INVENTION: Producing Them
FILE REFERENCE: 469201-526
CURRENT APPLICATION NUMBER: US/09/796,848A
CURRENT APPLICATION NUMBER: US. 60/186,252
PRIOR APPLICATION NUMBER: US. 60/186,252
NUMBER OF SEQ ID NOS: 59
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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7. OTHER INFORMATION: Description of Artificial Sequence:Light chain
7. OTHER INFORMATION: CDR reference sequence.
78-09-796-8488-7
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Pred. No. 8.6e+04;
; Mismatches 3; Indels
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APPLICANT: Young et al.
TITLE OF INVENTION: 87 Human Secreted Proteins
FILE REFERENCE: PZ004P1
CURRENT APPLICATION NUMBER: US/09/984,245
CURRENT FILING DATE: 1906.10-29
FRIOR PILING DATE: 1998-09-17
PRIOR PILING DATE: 1998-09-17
PRIOR PILING DATE: 1998-09-17
PRIOR APPLICATION NUMBER: DCT/US98/05311
PRIOR APPLICATION NUMBER: US 60/041,277
PRIOR APPLICATION NUMBER: US 60/041,277
PRIOR APPLICATION NUMBER: US 60/042,344
PRIOR FILING DATE: 1997-03-21
PRIOR APPLICATION NUMBER: US 60/041,281
PRIOR APPLICATION NUMBER: US 60/041,281
PRIOR APPLICATION NUMBER: US 60/041,281
PRIOR PILING DATE: 1997-03-21
PRIOR APPLICATION NUMBER: US 60/048,981
PRIOR FILING DATE: 1997-03-21
PRIOR PILING DATE: 1997-03-21
PRIOR APPLICATION NUMBER: US 60/048,350
PRIOR PILING DATE: 1997-05-30
PRIOR APPLICATION NUMBER: US 60/048,188
PRIOR PILING DATE: 1997-05-30
PRIOR APPLICATION NUMBER: US 60/048,188
PRIOR APPLICATION NUMBER: US 60/048,188
PRIOR PILING DATE: 1997-05-30
PRIOR PILING DATE: 1997-05-30
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APPLICATION NUMBER: US 60/050,937
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                                                                                                                                                Sequence 7, Application US/09796848A Patent No. US20020098189A1
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55.6%;
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Best Local Similarity 55.6°
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6 FKGQGC 11
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4 FFGEGC 9
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                                       US-09-826-290-159
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APPLICANT:
APPLICANT:
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APPLICANT:
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SERVERAL INFORMATION:
APPLICANT: Friedman, David L.
APPLICANT: Friedman, David L.
APPLICANT: Friedman, David L.
APPLICANT: Friedman, David L.
APPLICANT: Farekh, Rajesh Bhikhu
APPLICANT: Parekh, Rajesh Bhikhu
APPLICANT: Potter, David M.
APPLICANT: Stiber, En Michael
APPLICANT: Stiber, Thomas R.
APPLICANT: Stiber, Thomas R.
APPLICANT: Stiber, Thomas R.
APPLICANT: Stiber, Thomas R.
APPLICANT: Williams, Stephen A.
TITLE OF INVENTION: Nucleic Acid Molecules, Polypeptides and
TITLE OF INVENTION: Uses Therefor, Including Diagnosis and Treatment of
TITLE OF INVENTION: Alsheimer's Disease
FILE REFERENCE: 2572-1-001 N2
CURRENT APPLICATION NUMBER: US 60/194,504
FRIOR FILING DATE: 2000-04-03
FRIOR FILING DATE: 2000-01-28
NUMBER OF SEQ ID NOS: 492
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 149
LENGTH: 15
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Pred. No. 1.3e+02;
0; Mismatches 2; Indels
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                                                   REGISTRATION NUMBER: 28,665
REGISTRATION NUMBER: 28,665
REFERENCE/DOCKET NUMBER: 18733/464
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFRAX: (202)672-5399
TELEFAX: (202)672-5399
INFORMATION FOR SEQ ID N: 39:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 aming acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Mismatches
APPLICATION NUMBER: US 08/318,157
FILING DATE: 05-OCT-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                            ; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 39:
US-09-223-794-39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 149, Application US/09826290 Patent No. US20020164668A1
                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: <Unknown>
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Best Local Similarity 71.4%;
Matches 5; Conservative (
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Best Local Similarity
4; Conserv
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2 GQGTPVT 8
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4 FFGEGC 9
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US-09-826-290-149
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APPLICANT: Kimmel, Lida H.
APPLICANT: Ratech, Rajesh Bhikhu
APPLICANT: Parekh, Rajesh Bhikhu
APPLICANT: Parekh, Rajesh Bhikhu
APPLICANT: Porter, David M.
APPLICANT: Sobier, B. Michael
APPLICANT: Silber, B. Michael
APPLICANT: Suderland, P. Treed
APPLICANT: Suderland, P. Treed
APPLICANT: Townsend, Robert Reid
APPLICANT: White, Frost
APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Williams, Stephen A.
TITLE OF INVENTION: Nucleic Acid Molecules, Polypeptides and
TITLE OF INVENTION: Nucleic Acid Molecules, Polypeptides and
TITLE OF INVENTION: Alzheimer's Disease
TITLE OF INVENTION: Alzheimer's Disease
FILE REFERENCE: 2572-1-001 NZ
CURRENT APPLICATION NUMBER: US/09/826,290
CURRENT FILING DATE: 2001-04-30
PRIOR PRICATION NUMBER: US 60/194,504
PRIOR PRICATION NUMBER: US 60/253,647
PRIOR APPLICATION NUMBER: US 60/253,647
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0
                                                                                                                                                                                                                    T: Herath, Herath Mudiyanselage Athula Chandrasiri
T: Kimmel, Lida H.
Parekh, Rajesh Bhikhu
T: Potter, David M.
T: Rohlff, Christian
T: Silber, B. Michael
T: Stiger, Thomas R.
T: Suderland, P. Trey
T: Townsend, Robert Reid
T: White, Frost
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APPLICANT: Friedman, David L.
APPLICANT: Herath, Herath Mudiyanselage Athula Chandrasiri
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Pred. No. 1.7e+02;
1; Mismatches 1;
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 159
LENGTH: 15
Sequence 159, Application US/09826290
Patent No. US20020164668A1
GENERAL INFORMATION:
APPLICANT: Durham, L.Kathryn
APPLICANT: Friedman, David L.
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66.7%;
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Best Local Similarity
4; Conserva
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; ORGANISM: homo sapien
US-09-826-290-159
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APPLICATION NUMBER: US 08/963,368
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Best Local Similarity 57.1%;
Matches 4; Conservative
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APPLICANT: FIRAT, HUSEYIN
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US-10-106-487-36
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LENGTH: 16
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Sequence 85, Application US/09916940

Sequence 86, Application US/09916940

SEQUENCE INCORNATION:

APPLICANT: NO. US20020127564Alan, Garry P

TITLE OF INVENTION: WETHCOOK REPTIDES AND RNA MOLECULES

TITLE OF INVENTION: WETHCOOK REPTIDES AND RNA MOLECULES

FILE REFERENCE: A-64260-6/RMS/AMS

CURRENT APPLICATION NUMBER: US/09/916,940

PRIOR PELING DATE: 1200-11-28

PRIOR PELING DATE: 12097-11-128

PRIOR PELING DATE: 1997-11-28

PRIOR PELING DATE: 1997-11-23

PRIOR PELING DATE: 1996-01-23

PRIOR PELING DATE: 1996-01-23

PRIOR PELING DATE: 1997-01-23

NUMBER OF SEQ ID NOS: 102

SEQ ID NO 85

LENGTH: 16
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APPLICANT: NO. US20020127564Alan, Garry P
TITLE OF INVENTION: METHODS FOR SCREENING FOR TRANSDOMINANT INTRACELLULAR
TITLE OF INVENTION: EFFECTOR PEFFICES AND RNA MOLECULES
FILE REFERENCE: A-64260-6/RMS/AMS
CURRENT PEPLICATION NUMBER: US/09/916,940
CURRENT FILING DATE: 2001-07-27
PRIOR APPLICATION NUMBER: US 09/727,715
PRIOR FILING DATE: 2000-11-28
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; OTHER INFORMATION: Description of Artificial Sequence: synthetic
US-09-916-940-85
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                                                                                                                                                                                            Score 26; DB 9; I
Pred. No. 1.7e+02;
1; Mismatches 1;
PRIOR FILING DATE: 2000-11-28
NUMBER OF SEQ ID NOS: 492
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 163
LENGTH: 15
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                                                                                                                                                                                              29.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 29.2
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                        Conservative
                                                                                                           ; TYPE: PRT
; ORGANISM: homo sapien
US-09-826-290-163
                                                                                                                                                                                                                Local Similarity
nes 4; Conserv
                                                                                                                                                                                                                                                                               6 FKGQGC 11
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APPLICANT: FIRAL HOSELAN
APPLICANT: LANGLADE-DEMOYEN, PIERRE
APPLICANT: LANGLADE-DEMOYEN, PIERRE
APPLICANT: MICHEL, MARIE-LOUISE
TITLE OF INVENTION: DESIGN OF A POLYEPITOPIC CONSTRUCT FOR THE INDUCTION
TITLE OF INVENTION: HA-A2.1 RESTRICTED HIV 1 SPECIFIC CTL RESPONSES USING
TITLE OF INVENTION: HHD MICE
FILE REFERENCE: 03495.0196 SEQUENCE LISTING
CURRENT APPLICATION NUMBER: 09/675,673
PRIOR APPLICATION NUMBER: 09/675,673
PRIOR PILING DATE: 2002-03-27
PRIOR FILING DATE: 1200-09-29
PRIOR FILING DATE: 1200-09-29
PRIOR FILING DATE: 1999-10-12
NUMBER OF SEQ ID NOS: 41
SEQ ID NO 36
LENGTH: 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Description of Artificial Sequence: synthetic US-09-916-940-97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match 29.2%; Score 26; DB 10; Length 16; Best Local Similarity 100.0%; Pred. No. 1.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT ORGANISM: Human immunodeficiency virus type 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3; Mismatches
PRIOR FILING DATE: 1997-11-03
PRIOR APPLICATION NUMBER: US 08/589,109
PRIOR FILING DATE: 1996-01-23
PRIOR PELING DATE: 1996-01-23
PRIOR APPLICATION NUMBER: US 08/789,911
PRIOR APPLICATION NUMBER: US 08/789,333
PRIOR FILING DATE: 1997-01-23
PRIOR PELING DATE: 1997-01-23
PRIOR PELING DATE: 1997-01-23
PRIOR FILING DATE: 1997-01-23
PRIOR FILING DATE: 1997-01-23
PRIOR FILING DATE: 1997-01-23
PRIOR FILING DATE: 1997-01-23
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; OTHER INFORMATION: L9V MUTANT EPITOPE
US-10-106-487-36
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US-09-158-120A-48
; Sequence 48, Application US/09158120A
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Search completed: December 4, 2002, 13:35:48 Job time: 10 secs

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85, Ap
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1, Appli
91, Appl
91, Appl
59, Appl
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COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/107,235
FILING DATE: 16-AUG.1993
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,415
FILING DATE: 12-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Rathlen, Deborah A
APPLICANT: Ferrante, Antonio
APPLICANT: Widmer, Fred
TITLE OF INVENTION: Neutrophil Stimulating Peptides
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Modified-site
LOCATION: 5..6
OTHER INFORMATION: /note= "CYS (Acm) PROTECTION
            US-08-615-181-108
US-09-518-046-125
US-07-706-872-1
US-08-006-644-91
US-08-006-644-91
US-08-997-918-59
US-09-258-754-104
US-08-68-754-104
US-08-68-687-590-49
US-08-448-489-10
US-08-789-333F-85
US-08-789-333F-85
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US-08-787-738B-85
US-08-787-738B-97
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OTHER INFORMATION: /note= "PEPTIDE 462'
                                                                                                                                                                                                                                                                                                                                           ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Allegretti & Witcoff, Ltd
STREET: 10 S. Wacker Dr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: McDonnell, John J
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 92,622A
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 19, Application US/08107235
Patent No. 5587457
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-715-1000
TELEFAX: 312-715-1234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 312-715-1234
INFORMATION FOR SEQ ID NO: 19:
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LENGTH: 15 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Chicago
STATE: Illinois
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
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 Sequence 54, Appl
Patent No. 5278286
Sequence 15, Appl
Sequence 16, Appl
Sequence 18, Appl
Sequence 16, Appl
Sequence 16, Appl
Sequence 15, Appl
Sequence 15, Appl
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10, Appl
7, Appli
43, Appl
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                                                                                                                                  (without alignments)
33.626 Million cell updates/sec
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Sequence 345,
Sequence 29, P
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Sequence 19,
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Sequence
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Sequence
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                                                                                                                4, 2002, 13:30:39 ; Search time 14 Seconds
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/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
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/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
               GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd
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US-08-107-235-10
US-08-178-268-44
US-08-714-9608-10
US-09-598-784-10
US-09-157-864-7
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3-09-598-784-15
3-09-598-784-18
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S-08-107-235-15
S-08-107-235-18
                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
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-09-518-046-143
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PCT-US91-09422-29
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-08-605-430-54
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                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                 OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Match Length DB
                                                                                                                                                                                US-09-754-004-1
89
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Maximum DB seq length: 16
                                                                                                                  December
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                                                                                                                                                                                                                       sequence:
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OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /note= "CYS 5 (ACM) PROTECTION PERMANENT"
                                                                                                              ;
0
                                                              66.3%; Score 59; DB 1; Length 15; 100.0%; Pred. No. 0.0011; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                    Sequence 19, Application US/08714960B
Patent No. 6121237
GENERAL INFORMATION:
APPLICANT: FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: BANNER & WITCOFF, LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 60606

ZIP: 60606

COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: SYSTEM: IBM compatible PC/MS-DOS
SOFTWARE: WORDPETFECT version 6.1

CURRENT APPLICATION DATA:
FILING DATE: 17-SEP-1996
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Peptide

LOCATION: 1..15

OTHER INFORMATION: /note= "PEPTIDE 462"

US-08-714-960B-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
SITY: Ohicago
STATE: 111inois
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU PJ9065
FILING DATE: 12-MAR-1990
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: PCT/AU91/00086
FILING DATE: 12-MAR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,415
FILING DATE: 09-NOV-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: RESIS, RODETL H.
REGISTRATION NUMBER: 32,168
FELECOMMUNICATION INFORMATION:
TELECHHONE: (312) 715-1234
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
TELEFRAX: (312) 715-1234
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
; OTHER INFORMATION: PERMANENT" US-08-107-235-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Modified-site
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                                                                   Query Match 66.3
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: sin
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                                                                                                                                                                                                                                                                            RESULT 2
US-08-714-960B-19
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Gaps
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COMPUTER READABLE FORM:

MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: WordPerfect version 6.1

CURRENT APPLICATION DATA:
APPLICATION NUMBER: 02/09/598,784
FILING DATE: 21-Jun 2000
CLASSIFICATION NUMBER: 02/09/598,784
FILING DATE: 12-MAR-1990
APPLICATION NUMBER: PCT/AU01/00086
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: PCT/AU01/00086
FILING DATE: 10-MAR-1991
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-MG-1193
APPLICATION NUMBER: US 08/714,960
FILING DATE: 17-SEP-1996
ATTORREY AGENT INFORMATION:
REGISTRATION NUMBER: 32,168
REFERRENCE/DOCKET NUMBER: 31,168
REFERRENCE/DOCKET NUMBER: 132,168
REFERRENCE/DOCKET NUMBER: 132,168
REFERRENCE/DOCKET NUMBER: 132,168
REFERRENCE/DOCKET NUMBER: 133,168
REFERRENCE/DOCKET NUMBER: 132,168
REFERRENCE/DOCKET NUMBER: 133,168
REFERRENCE/DOCKET NUMBER: 133,168
REFERRENCE/DOCKET NUMBER: 133,1765
RELEPHONICATION NUMBER: 132,1765
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RELEPHONICATION NUMB
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Length 15;
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 19, Application US/09598784
Sequence 19, Application US/09598784
Patent No. 6375928
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: RATHJEN, Deborah A
FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: /product- "OTHER" /note= "CYS 5 (ACM) PROTECTION PERMANENT"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE DESCRIPTION: SEQ ID NO: 19: US-09-598-784-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
CITY: Chicago
    66.3%; Score 59; DB 3; 100.0%; Pred. No. 0.0011; iive 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66.3%; Score 59;
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STRANDEDRESS: single
TOPLOGY: not relevant
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 19: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION: 1..15
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 19 CORRESPONDENCE ADDRESS:
                                                                                     Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: Illinois
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY:
            Query Match
Best Local Similarity
                                                                                                                                                                  7 KGQGCPSTHV 16
                                                                                                                                                                                                               1 KGQGCPSTHV 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE
                                                                                                                                                                                                                                                                                                                                                                  RESULT 3
US-09-598-784-19
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AMPLICANT: MACK, Philip O
TITLE OF INVENTION: Peptide which Abrogates TNF and/or LPS Toxicity
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSES: Nixon & Vandania
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 10, Application US/08714960B
Patent No. 6121237
GENERAL INFORMATION:
APPLICANT: RATHJEN, Deborah A
PAPLICANT: FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
UNDRESPONDERS:
ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
CITY: Chicago
STREET: US. Wacker Drive, Suite 3000
CITY: Chicago
STREET: US. Wacker Drive, Suite 3000
CITY: Chicago
STREET: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
COMPUTER: IBM PC compatible
OPERATING SYSTEM: IBM compatible PC/MS-DOS
SOFTWARE: WordPerfect version 6.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/714,960B
FILING DATE: 17.5EP-1996
CLASSIFICATION: 514
                                                                                                                                                         ADDRESSEE: Nixon & Vanderhye P.C.
STREET: 1100 No. 5795859th Glebe Road, 8th Floor
                                                                                                                                                                                                                      STATE: VIRGINIA

STATE: VIRGINIA

ZIP: 22201-4714

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC COMPATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PATENTIN Release #1.24

CURRENT APPLICATION DATA:

RPLICATION NUMBER: US/08/178,268

FILING DATE: 05-JAN-1994

CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: MITCHARD, Leonard C
REGISTRATION NUMBER: 29,009
REFERENCE/DOCKET NUMBER: 47-45
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 816-4000
TELEPAX: (703) 816-4100
INFORMATION FOR SEQ ID NO: 44:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUBBR: AU PJ9065
FILING DATE: 12-MAR-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 15 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 58.4
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TOPOLOGY: both MOLECULE TYPE: peptide US-08-178-268-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 YSQVLFKGQG 10
|||||||||||||||6
6 YSQVLFKGQG 15
                                                                                                                                                                                                        CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-714-960B-10
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                                                                 Pred. No. 0.0011;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Rathjen, Deborah A
PAPLICANT: Rathjen, Antonio
APPLICANT: Widmar, Fred
ITILE OF INFORTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Allegretti & Witcoff, Ltd.
STREET: 10 S. Wacker Dr.
CITY: Chicago
STAFE: Illinois
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/107,235
FILING DATE: 16-AUG-1993
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/930,415
FILING DATE: 12-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .; LOCATION: 1.15
; OTHER INFORMATION: /note="PEPTIDE 308 (54-68)"
US-08-107-235-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 44, Application US/08178268
Patent No. 5795859
GENERAL INFORMATION:
APPLICANT: RATHGEN, Deborah A
APPLICANT: WIDMER, Fred
APPLICANT: GRIGG, Geoffrey W
                                                                                                                                                                                                                                                                                          Sequence 10, Application US/08107235 Patent No. 5587457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: McDonnell, John J
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 92,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-715-1000
TELEPAX: 312-715-1234
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
                                                                 100.08;
                                                                 Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.
Matches 10; Conservative
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MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
                                                                                                                                                         1 KGQGCPSTHV 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 YSQVLFKGQG 10
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                                                                                                                                  7 KGQGCPSTHV 16
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                                                                                                                                                                                                                                                RESULT 4
US-08-107-235-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-178-268-44
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| LOCATION: 1.15 | OTHER INFORMATION: /note= "PEPTIDE 308 (54-68)" | SEQUENCE DESCRIPTION: SEQ ID NO: 10: US-09-598-784-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7, Application US/09157864
Patent No. 6440694
Patent No. 6440694
GENERAL INFORMATION:
APPLICANT: Bienkowski, Michael J
APPLICANT: Mills, Cynthia J
APPLICANT: Mills, Cynthia J
APPLICANT: MILLS, Cynthia J
APPLICANT: TITLE OF INVENTION: TNF-Related Death Ligand
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pharmacia & Upjohn, Intellectual Property
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -...ratible
-...ra
                                  NAME: Resis, Robert H.
REGISTRATION NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 11341.00001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 715-1000
TELEFAX: (312) 715-1234
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 301 Henrietta Street
                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 Diskette
COMPUTER: IBM PC compatible
   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Kerber, Lori L.
REGISTRATION NUMBER: 41,113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: 61
TELECOMMUNICATION INFORMATION:
TELEPHONE: 616/833-0974
TELEFAX: 616/833-8897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Legal Services
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 58.4
Best Local Similarity 100.
Matches 10; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: MI
COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               49001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 8
US-09-157-864-7
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APPLICATION NUMBER: US/09/598,784 FILING DATE: 21-Jun-2000 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58.4%; Score 52; DB 3; Length 15; 100.0%; Pred. No. 0.017; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: RATHUEN, Deborah A
APPLICANT: RATHUEN, Datonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; LOCATION: 1.15; OTHER INFORMATION: /note= "PEPTIDE 308 (54-68)" US-08-714-9608-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
CITY: Chicago
STATE: 111inois
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU PU9065
FILING DATE: 12-MAR-1990
APPLICATION NUMBER: PCT/A091/00086
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: US 07/930,415
FILING DATE: 09-NOV-1992
APPLICATION NUMBER: US 08/107,235
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APPLICATION NUMBER: US 08/714,960
FILING DATE: 17-SEP-1996
                                                                                                                                                                                                                                                                                               NAME: Resis, Robert H.
REGIGSTRATION NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 92,622-B
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 715-1000
TELEPHONE: (312) 715-1234
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
APPLICATION NUMBER: PCT/AU91/00086 FILING DATE: 12-MAR-1991 PRIOR APPLICATION DATA:
                                                                                          APPLICATION NUMBER: US 07/930,415
FILING DATE: 09-NOV-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-AUG-1993
ATTORIEZ/AGET INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 10, Application US/09598784 Patent No. 6375928 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 15 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: single
TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Peptide
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Patent No. 6294663

GENERAL INFORMATION:
APPLICANT: O'Brien, Timothy J.
APPLICANT: O'Brien, Timothy J.
TITLE OF INVENTION: Transmembrane Serine Protease Overexpressed
TITLE OF INVENTION: in Ovarian Carcinoma and Uses Thereof
FILE REFERENCE: D6192CIP
CURRENT APPLICATION NUMBER: US/09/518,046
CURRENT FILING DATE: 2000-03-02
FARLIER APPLICATION NUMBER: 09/261,416
BARLIER PLING DATE: 1999-03-03
NUMBER OF SEQ ID NOS: 153
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match
33.7%; Score 30; DB 4; Length 9;
Best Local Similarity 62.5%; Pred. No. 2e+05;
Matches 5; Conservative 1; Mismatches 2; Indels
                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/556,597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Mismatches
Clinton Square, P.O. Box 1051
                                                                                                                                                                                                                                                                                        CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/406,330
FILING DATE: 17-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Timian, Susan J.
REGISTRATION NUMBER: 34,103
REFERENCE/DOCKET NUMBER: 2084/101
TELECOMMUNICATION INFORMATION:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                                                                                     ZIP: 14603
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; LOCATION: 192...200
; OTHER INFORMATION: TADG-12 peptide
US-09-518-046-143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34.8%;
62.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 12 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 62.5
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; MOLECULE TYPE: peptide US-08-556-597-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                          Rochester
                                                 New York
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                                                                    USA
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2 EGCASGHV 9
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                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
US-09-518-046-143
                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 143
                     CITY: 1
STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
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Pred. No. 41;
1; Mismatches 2; Indels
                   39.3%; Score 35; DB 4; Length 16; 100.0%; Pred. No. 12; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                   Sequence 43, Application US/08406330
Patent No. 581748
GENERAL INFORMATION:
APPLICANT: Lyle, Vicki A.
TITLE OF INVENTION: MIMOTOPES AND ANTI-MIMOTOPES OF
TITLE OF INVENTION: MIMOTOPES AND ANTI-MIMOTOPES OF
TITLE OF INVENTION: HUMAN PLATELET GLYCOPROTEIN 1b/IX
NUMBER OF SEQUENCES: 81
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Miller, Jonathan L.
APPLICANT: Lyle, Vicki A.
TITLE OF INVENTION: MIMOTOPES AND ANTI-MIMOTOPES OF
TITLE OF INVENTION: HUMAN PLATELET GLYCOPROTEIN 1b/IX
NUMBER OF SEQUENCES: 173
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERRATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/406,330
FILING DATE:
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Timian, Susan J.
REFERENCE/DOCKET NUMBER: 34.103
REFERENCE/DOCKET NUMBER: 34.103
REFERENCE/DOCKET NUMBER: 34.103
REFERENCE/DOCKET NUMBER: 36.103
TELEPHONE: (716) 263-1600
INFORMATION FOR SEQ ID NO: 43:
SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
were: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Nixon, Hargrave, Devans & Doyle LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Nixon, Hargrave, Devans & Doyle STREET: Clinton Square, P.O. Box 1051 CITY: Rochester STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 43, Application US/08556597
Patent No. 5877155
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34.8%;
62.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 34.8
Best Local Similarity 62.5
Matches 5; Conservative
                                          Best_Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; MOLECULE TYPE: peptide US-08-406-330-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5 LFKGQGCP 12
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                                                                                                                                     10 YSQVLFK 16
                                                                                                          1 YSQVLFK 7
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US-08-556-597-43
                                                                                                                                                                                                                                                US-08-406-330-43
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                       Query Match
                                                                                                                                                                                                                             RESULT 9
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APPLICANT: Dean, Richard T.
APPLICANT: Buttram, Scott
APPLICANT: McBride, William
APPLICANT: Lister-James, John
APPLICANT: Lister-James, John
APPLICANT: Civitello, Edgar R.
TITLE OF INVENTION: TECHNETIUM-99m LABELED PEPTIDES FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product= "lysine 4 is linked to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION: 10
OTHER INFORMATION: /product= "serine 10 is amidated"
OTHER INFORMATION: /label= amide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
RPLICATION NUMBER: US/08/582,134B
FILING DATE: 14-MAY 1996
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: /product= "methionine 1 is
OTHER INFORMATION: formylated"
OTHER INFORMATION: /label= formyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY AGENT INFORMATION:
NAME: MCDANIELS, PATRICIA A.
REGISTRATION NUMBER: 33.194
REFERENCE/DOCKET NUMBER: DITI 112D1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (603) 437-8970
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                  Sequence 19, Application US/08582134B Patent No. 6074627 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BAT chelator
/label= BAT
                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS: not relevant
                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSEE: Diatide, Inc.
STREEF: 9 Delta Drive
CITY: Londonderry
STRTE: NH
STRTE: NH
COUNTRY: USA
ZIP: 03053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: Modified-site LOCATION: 1
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Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-582-134B-19
                    US-08-582-134B-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
RESULT 13
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0
                                                                     Sequence 19, Application US/08253678A

Sequence 19, Application US/08253678A

GENERAL INFORMATION:
APPLICANT: Dean, Richard T.
APPLICANT: Butram, Scott
APPLICANT: Lister-James, John
APPLICANT: Lister-James, John
APPLICANT: Lister-James, John
APPLICANT: Lister-James, John
APPLICANT: Civitello, Edgar R.
TITLE OF INVENTION: TECHNETIUM-99m LABELED PEPTIDES FOR
TITLE OF INVENTION: IMAGING
MUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 29; DB 2; Length 10;
Pred. No. 73;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product= "lysine 4 is linked to
BAT chelator"
/label= BAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: /product= "serine 10 is amidated";
OTHER INFORMATION: /label- amide
US-08-253-678A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/253,678A
FILING DATE: 03-JUN-1994
CLASSIFICATION: 424
ATTORNEY/AGENT INRORMATION:
NAME: McDaniels, Patricia A.
REGISTRATION NUMBER: 33,194
REFERENCE/DOCKET NUMBER: 33,194
REFERENCE/DOCKET NUMBER: 01TI 112
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 10F0RMATION:
TELECOMMUNICATION 10F0RMATION:
TELECOMMUNICATION 10F0RMATION:
TELECOMMUNICATION 10F0RMATION:
TELECOMMUNICATION 00: 19:
SEQUENCE CRRACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product= "methionine 1 is
formylated"
/label= formyl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32.6%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Diatide, Inc.
STREET: 9 Delta Drive
CITY: Londonderry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION: 1
OTHER INFORMATION: ,
OTHER INFORMATION: 1
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OTHER INFORMATION:
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Best Local Similarity
'has 6; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: U
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; OTHER INFORMATION: /label= amide
Us-08-582-134B-19
Query Match
Best Local Similarity 60.0%; Pred. No. 73;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Qy 4 VLEKGOCPS 13
:|||| | | |
Db 1 MLFKGSGSGS 10
RESULT 14
US-08-598-873-54

QY Db

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amino acid
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Patent No. 6242212
GENERAL INFORMATION:
APPLICANT: Croce, Carlo M.
APPLICANT: Huebner, Kay
TITLE OF INVENTION: FHIT PROTEINS AND NUCLEIC ACIDS AND
TITLE OF INVENTION: METHODS BASED THEREON
NUMBER OF SEQUENCES: 86
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
Sequence 54, Application US/08598873
Patent No. 5928884
GENERAL INFORMATION:
APPLICANT: Croce, Carlo M.
APPLICANT: Huebner, Kay
TITLE OF INVENTION: METHODS BASED THEREON
TITLE OF SEQUENCES: 77
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; Length 11;
                                                                                                                                                                                                                                                  CILIT: New YORK
COUNTRY: U.S.A.

COUNTRY: U.S.A.

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/598,873
FILING DATE: 09-FEB-1996
CLASSIFICATION: 514
ATYONEY/AGENT INPORMATION:
NAME: Friebel, Thomas E.
REGISTRATION NUMBER: 29,258
REFERENCE/DOCKET NUMBER: 8666-004
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 1909-9090
TELEERAX: (212) 790-9090
TELEERAX: (212) 790-9090
TELEERAX: 611 PENINE
INFORMATION FOR SEQ ID NO: 54:
SEQUENCE CHARACTERISTICS:
LUNCTH: 11 maino acids
LUNCTH: 11 maino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/605,430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 29; DB
Pred. No. 81;
0; Mismatches
                                                                                                                                                                                        ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      32.6%;
62.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 32.6
Best Local Similarity 62.5
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: unknown; MOLECULE TYPE: peptide US-08-598-873-54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6 FKGQGCPS 13
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GenCore version 5.1.3

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OM protein - protein search, using sw model

Run on: December 4, 2002, 13:35:35 ; Search time 15 Seconds (without alignments)

140.997 Million cell updates/sec
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Title:
US-09-754-004-2
Perfect score: 115
Sequence: 1 YQTKVNLLSAIKSPCQRETPEG 22

Searched: 283224 seqs, 96134422 residues

BLOSUM62 Gapop 10.0 , Gapext 0.5

Scoring table:

Total number of hits satisfying chosen parameters: 4263

Minimum DB seq length: 0 Maximum DB seq length: 22 Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : PIR_73:*
1: pirl:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARI

	Description	22K protein - Lyme	82K protein - bovi	lya	NTL1 protein - cur	human leukocyte an	neurofilament heav	intracrystalline c	Ca2+-transporting	NADH2 dehydrogenas	scyliorhinin II -	Ig H chain V-D-J r	phloroglucinol red	alpha-conotoxin Pn	T-cell receptor be	large granule L2 c	hypothetical prote	endothelial growth	protein QA300050 -	alpha-conotoxin Pn	zymogen granule me		_	pollen allergen Fe	R-phycoerythrin be	hypothetical prote		T-cell receptor J-	polygalacturonase	self-incompatibili
SUMMARIES	OI OI	A60118	S31220	A41338	S46418	I59649	153671	B56894	A33816	PT0092	B24867	PH1591	A32453	A54877	PH0767	PC1315	B81078	I56493	PA0024	B54877	PC2196	E56661	A33878	D37396	D22565	H71858	I54268	S47207	S62880	PQ0491
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dР	Query Match	27.0	23.5	22.6	22.6	22.6	22.6	22.6	21.7	20.9	20.9	20.0	20.0	20.0	20.0	20.0	20.0	19.1	19.1	19.1	19.1	19.1	•				19.1			18.3
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isocitrate lyase (EC 4.1.3.1) - Acinetobacter calcoaceticus (fragment)
C;Species: Acinetobacter calcoaceticus
C;Date: 28-May-1992 #sequence_revision 28-May-1992 #text_change 23-Jun-1993

RESULT 3 A41338

S-locus specific g	S-locus specific q	ribosomal protein	Ig H chain V-D-J r	T-cell receptor be	GTP-binding protei	kmR protein - yeas	ribosomal protein	S-locus specific q	self-incompatibili	protein IEF SSP 91	T-cell surface gly	ribosomal protein	hypothetical prote	unspecific monooxy
D56661 156388	B56661	536896	PH1589	PH0763	S29491	S38895	JP0063	C56661	PQ0492	S37684	B47642	S68914	G83924	C26997
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21	21	21	21	21	21	21	21	21	21	21	21	21	21	20
30	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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C; Species: Bos primigenius taurus (cattle)
C; Decies: Bos primigenius taurus (cattle)
C; Decies: Bos primigenius taurus (cattle)
C; Decies: Bos primigenius taurus prempleton, D.M.
FGSSTILIO, G.M.; Templeton, D.M.
FEBS Lett. 318, 292-296, 1993
A; Teitle: Subunit structure of bovine ESF (extracellular-matrix stabilizing factor(s))
A; Reference number: S31220
A; Reference number: S31220
A; Accession: S31220
A; Accession: S31220
A; Accession: Company
A; Residues: 1-20 cCAS>
                                                               C;Accession: A60118
R;Luft, B.J.; Jiang, W.; Munoz, P.; Dattwyler, R.J.; Gorevic, P.D.
Riloft, B.J.; Jiang, W.; Munoz, P.; Dattwyler, R.J.; Gorevic, P.D.
A;Trite: Immun. 57, 3637-3645, 1989
A;Reference number: A60118; MUID:90035442; PMID:2807540
A;Accession: A60118
A;Accession: A60118
A;Molecule type: protein
A;Residues: 1-18 < LUF>
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22K protein - Lyme disease spirochete (fragment)
C;Species: Borrelia burgdorferi (Lyme disease spirochete)
C;Date: 22-Jan_1993 #sequence_revision 22-Jan-1993 #text_change 18-Jun-1993
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Pred. No. 1.4e+02;
2; Mismatches 1; Indels
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Pred. No. 7e+02;
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ilarity 83.3%;
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Best Local Similarity 66.7%;
Matches 6; Conservative
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Best Local Similarity
Matches 5; Conserv
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KINLLXAIQ 17
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82K protein - bowine
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C;Accession: A41338
R;Hoyt, J.C.; Johnson, K.E.; Reeves, H.C.
J. Bacteriol. 173, 6844-6846, 1991
A;Title: Purification and characterization of Acinetobacter calcoaceticus isocitrate lya A;Title: Purification and characterization of Acinetobacter calcoaceticus isocitrate lya A;Reference number: A41338 MUID:92041568; PMID:193889
A;Accession: A41338
A;Accession: A41338
A;Molecule type: protein
A;Residues: 1-15 <HOY>
C;Keywords: carbon-carbon lyase; oxo-acid-lyase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R:Daniel-Vedele, F.; Caboche, M.
Mol. Gen. Genet. 240, 365-373, 1993
A/Title: A tobacco cDNA clone encoding a GATA-1 zinc finger protein homologous to regula A; Reference number: $46418; MUID:94019241; PMID:8413186
A; Accession: $46418
A; Status: preliminary
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Tissue Antigens 44, 19-24, 1994
A;Title: The DQA1*0104 allele is carried by DRB1*1001- and DRB1*1401-positive haplotypes
A;Reference number: I59649; MUID:95064785; PMID:7974465
A;Accession: I59649
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C;Species: Homo sapiens (man)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 05-Nov-1999
C;Accession: IS9649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Species: Nicotiana plumbaginifolia (curled-leaved tobacco)
C;Date: 27-Jan-1995 #sequence_revision 27-Jan-1995 #text_change 02-Aug-2002
C;Accession: S46418
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A;MoLecule type: DNA
A;Residues: 1-18 <RES>
A;Cross-references: GB:S75685; NID:g913771; PIDN:AAB32621.1; PID:g913772
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A;Residues: 1-18 <DAN>
A;Cross-references: EMBL:865745
C;Superfamily: Arabidopsis thaliana GATA transcription factor 4
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Pred. No. 9.1e+02;
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Pred. No. 7.5e+02;
5; Mismatches 4; Indels
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Pred. No. 9.1e+02;
1; Mismatches 4;
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A;Map position: 6p21.3-6p21.3
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ilarity 54.5%;
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Best Local Similarity 30.8
Matches 4; Conservative
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Best Local Similarity
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intracrystalline chromoprotein 1 - Waltonia inconspicua (fragment)
C;Species: Waltonia inconspicua
C;Date: 05-Jan-1996 #sequence_revision 05-Jan-1996 #text_change 20-Jun-2000
C;Date: 05-Jan-1996 #sequence_revision 05-Jan-1996 #text_change 20-Jun-2000
C;Accession: B6894
R;Cusack, M.; Curry, G.; Clegg, H.; Abbott, G.
Comp. Biochem. Physiol. B 102, 93-95, 1992
Comp. Biochem. Physiol. B 102, 93-95, 1992
A;Title: An intracrystalline chromoprotein from red brachiopod shells: implications f A;Reference number: A56894; MUID:92405551; PMID:1526140
A;Contents: Sowerby, red brachiopod shells
A;Accession: B56894
A;Accession: B56894
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A;Accession: C;Accession: B66894
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Cispecies: All sales (man)
Cispecies: All sales (man)
Cispecies: McCormick, D.J.; Penn
Cispecies: All sales (man)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ca2+-transporting ATPase (EC 3.6.3.8) - human (fragments)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 26; DB 2;
Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3; Mismatches
neurofilament heavy subunit - human (fragment)
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A; Map position: 22q12.1-22q13.1
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Gaps

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6 Length

Score 23; DB 2; I Pred. No. 2.8e+05;

1; Mismatches

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A; Experimental source: bone marrow pre-B lymphocyte C; Keywords: immunoglobulin
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50.0%;
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Best Local Similarity 60.0°
Matches 3; Conservative
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                                                                                                                   Conservative
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A;Molecule type: protein
A;Residues: 1-13 <HAD>
C;Keywords: oxidoreductase
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Best Local Similarity
                                                                       Query Match
Best Local Similarity
Matches 4; Conserv
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C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 0.0-Jun-1994 #sequence_revision 02-Jun-1994 #text_change 17-Mar-1999
C;Accession: PH1591
R;Levinson, D.A.; Campos-Torres, J.; Leder, P.
A;Tetle: Modecular characterization of transgene-induced immunodeficiency in B-less mice
A;Reference number: PH1580; MUID:93301609; PMID:8315387
A;Accession: PH1591
A;Moulecule type: DNA
A;Residues: 1-9 <LEV>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Species: Scyliorhinus canicula (smaller spotted catshark, smaller spotted dogfish)
C;Date: 02-Jun-1988 #sequence_revision 02-Jun-1988 #text_change 08-Dec-1995
C;Accession: B24867
R;Conlon, J.M.; Deacon, C.F.; O'Toole, L.; Thim, L.
FEBS Lett. 200, 111-116, 1986
A;Filer Scyliorhinin I and II: two novel tachykinins from dogfish gut.
A;Reference number: A91359; MUID:86192829; PMID:2422058
A;Accession: B24867
A;Residues: 1-18 <CON>
C;Keywords: amidated carboxyl end; neuropeptide
F;18/Modified site: amidated carboxyl end (Met) #status experimental
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Pred. No. 1.6e+03;
1; Mismatches 0; Indels
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                       Score 25; DB 2; Length 22;
Pred. No. 1.7e+03;
5; Mismatches 3; Indels
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80.0%;
                       21.7%;
ilarity 33.3%;
Conservative
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                       Query Match
Best Local Similarity
Matches 4; Conserv
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nes 4; Conserv
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10 RDTPE 14
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R;Fainzilber, M.; Hasson, A.; Oren, R.; Burlingame, A.L.; Gordon, D.; Spira, M.E.; Zl Biochemistry 33, 9523-9529, 1994
A;Title: New mollusc-specific alpha-conotoxins block Aplysia neuronal acetylcholine r A;Reference number: A54877; MUID:94347719; PMID:8068627
A;Accession: A54877
                                                                                                          C,Accession: A32453
R;Haddock, J.D.; Ferry, J.G.
N;Haddock, J.D.; Ferry, J.G.
J. Biol. Chem. 264, 4423-4427, 1989
A;Title: Purification and properties of phloroglucinol reductase from Eubacterium oxi
A;Reference number: A32453; MUID:89174692; PMID:2925649
A;Accession: A32453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A, Molecule type: protein
A, Readues: 1-16 cKnl.
A, Readues: 1-16 cKnl.
B, Hu, S.H.; Gehrmann, J.; Guddat, L.W.; Alewood, P.F.; Craik, D.J.; Martin, J.L.
Submitted to the Brookhaven Protein Data Bank, January 1996
A), Reference number: A66355; PDB:1PEN
A; Reference number: A66355; PDB:1PEN
A; Contents: annotation; X-ray crystallography, 1.1 angstroms; residues 1-16
C; Comment: This alpha-conotoxin, as an acetylcholine receptor inhibitor, is a postsyn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Superfamily: alpha-conotoxin
C;Keywords: acetylcholine receptor inhibitor; amidated carboxyl end; postsynaptic neu
F;2-8,3-16/Disulfide bonds: #status experimental
F;16/Modified site: amidated carboxyl end (Cys) #status experimental
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phloroglucinol reductase (EC 1.....) - Eubacterium oxidoreducens (fragment) C;Species: Eubacterium oxidoreducens C;Date: 26-Oct-1989 #sequence_revision 26-Oct-1989 #text_change 24-Oct-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Conus pennaceus
C;Date: 19-Mar-1997 #sequence_revision 25-Apr-1997 #text_change 15-Sep-2000
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N;Alternate names: alpha-CTx-PnIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 23; DB 2; Length 16;
Pred. No. 2.5e+03;
1; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 13;
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Pred. No. 2e+03;
1; Mismatches
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large granule L2 chain - horseshoe crab (Tachypleus tridentatus) (fragment)
[Species: Tachypleus tridentatus
[Species: Tachypleus Tridentatochem. 114, 307-316, 193
[Species: Tachypleus Tridentatoche
                                                                                                                       R;Casanova, J.L.; Romero, P.; Widmann, C.; Kourilsky, P.; Maryanski, J.L.
J. Exp. Med. 174, 1371-1383, 1991
A;Title: T cell receptor genes in a series of class I major histocompatibility complex-I allelic exclusion and antigen-specific repertoire.
A;Reference number: PH0746; MUID:92078846; PMID:1836010
A;Accession: PH0767
A;Molecule type: mRNA
A;Residues: 1-16 <CAS>
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C;Species: Mus musculus (house mouse)
C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 05-Nov-1999
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A;Experimental source: T lymphocyte
C;Keywords: T-cell receptor
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Pred. No. 3e+03;
2; Mismatches 0; Indels
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Pred. No. 2.5e+03;
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Best Local Similarity 66.7%;
Matches 4; Conservative ;
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Best Local Similarity 37.5
Matches 3; Conservative
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1 CASSSPQG 8
                                                                                                   C; Accession: PH0767
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8 QTKLNV 13
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December 4, 2002, 13:32:55; Search time 11 Seconds (without alignments) 82.953 Million cell updates/sec
GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
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115
1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                          OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                     BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                          Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                       Scoring table:
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1277 Total number of hits satisfying chosen parameters:

112892 seqs, 41476328 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 22

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_40:* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	P28467 acinetobact	P08609 scyliorhinu	P57793 eubacterium	P50984 conus penna	P81735 leucophaea				P81360 clostridium	P05542 ovis aries		P80431 rattus norv		_	-	P81419 solanum tub	P58926 conus penna	7		P55236 spinacia ol			Q44592 ash yellows		clostr	_	~	و	m	a	-	P23208 bacteriopha	P55788 podisus mac
מ	ACEA_ACICA	TKN2_SCYCA	PHGR_EUBOX	CXAA_CONPE	TRP3_LEUMA	FKB7_PINPS	CXAB_CONPE	UH09_RAT	UN41_CLOPA	CD4_SHEEP	JHBP_BOMMO	COXM_RAT	ARCA_STRP5	CXA2_CONAL	FIBA_CERSI	ODPB_SOLTU	CXMA_CONPE	CXMB_CONPE	UP41_UPEIN	GLG1_SPIOL	LPL_CORGL	MGMT_BOVIN	RS19_ASHYP	SODN_STRGR		GSHX_PINPS	FIXA_RHILE	LCRP_PETMA	OXLA_OPHHA	CATA_ACIRA	OMP1_ACTAC	SCIB_BPT5	THAN_PODMA
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Result No.		7	m	4	2	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	59	30	31	32	33

| | | | :: : |: 3 YQTAIDAVRELKA 15

qq

RESULT 2

TRN2_SCYCA

TRN2_SCYCA

AC P08609;

DT 01-AUG-1988 (Rel. 08, Last sequence update)

DT 01-AUG-1988 (Rel. 08, Last sequence update)

DT 30-AMA-Y-2000 (Rel. 39, Last annotation update)

DS 30-AMA-Y-2000 (Rectin).

E Scyllorhinin II (Rectin).

C Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes; OC Elaxmobranchi; Galeomorphii; Galeoidea; Carcharhiniformes; OC Scyllorhinidae; Scyllorhinius.

ON CBI_TAXID=7830;

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			e) (Isocitratase)	xel]	er o	1). ate = succinate + glyox wxrate BYPASS, an ALTER N BACTERIA, PLANTS, AND LIMILARITY). 1asmic. ISOCITRATE LYASE FAMILY	e. 64;	Length 15	
			oci	lora	act	AN AN ANTS	Lyase. CRC64		
		A	te) (Is	ر د د	etok	nate SS, PLA	m	DB 1; 3.5e+02 hes	
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нананананан			Created) Last seg Last ann .1.3.1)	cus.	-193 Ree ceri	348(ESOC IN G FCLE R (BE FO T	Cit. RATE rbox	46 46 56 56	
22 9 9 111 113 113 115 116		RD;	Creat Last Last 4.1.3.	ria	Med⁼ E., raci	4-68 Y: EP D C) AMED	; Isocit SOCITRAT Tricarbo 15 1710 MW;	22.6%; 30.8%; ive	
		STANDARD;	24, 24, 39,	calcoaceticus eobacteria; g	Pub R.	; 684 IVIT F ST ACI ACI CETR	œœ H	vat	33
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11888888888888888888888888888888888888		ICA	1992 1992 2000 ate	bact a; F bact xID-	E. C., Cati	itrate lyase."; acteriol. 173:6844-6846 CAPALYTIC ACTIVITY: 1sc PATHWAY: FIRST STEP IN TRICARBOXYLIC ACID CYCI SUBUNIT: HOWOTETRAMER (SUBCELLULAR LOCATION: C SIMILARITY: BELONGS TO	1338 0;] ; P: ate	h Sin 4;	YQTKVNLLSAIKS
		T 1 ACICA ACEA_ACICA	PZ840/; DIDEC-1992 (Rel 01-DEC-1992 (Rel 30-MAY-2000 (Rel Isocitrate lyase (Fragment).	Actus. Actinetobacter calcoaceticus. Bacteria; Proteobacteria; gamma subdivision; Moraxellaceae; Actinetobacter.	[1] SEQUENCE. MEDILINE-92041568; PubMed=1938889; HOYT J.C., Johnson K.E., Reeves H.C.; "Purification and characterization of	<pre>isocitrate lyase."; J. Bacteriol. 173:6844-6848(1991)! CATALYTIC ACTIVITY: Isocitrate = succinate + glyoxylate!- PATHWAY: FIRST STEP IN GLYOXYLATE BYPASS, AN ALTERNATIVE TO TRICARBOXYLIC ACID CYCLE (IN BACTERIA, PLANTS, AND FUNGI)!- SUBURIT: HOMOTETRAMER (BY SIMILARITY)!- SUBCELLULAR LOCATION: Cytoplasmic!- SIMILARITY: BELONGS TO THE ISOCITRATE LYASE FAMILY.</pre>	PIR; A41338; A41338. Interpro; IPR000918; Isocit_lyase. PROSITE; PS00161; ISOCITRATE_LYASE; PARTIAL. Glyoxylate bypass; Tricarboxylic acid cycle; NON_TER 15 15 SEQUENCE 15 AA; 1710 MW; 83AE726B1F2F96E	Query Match Best Local Matches	1 YOT
4096878849		ACICA	72840/; 01-DEC- 01-DEC- 30-MAY- ISOCÍTE (Fragme	ACEA. Acine Bacte Acine NCBI	SEQU SEQU MEDI HOY PUI	1500 1	PIR; Inte PROS GLYC NON.	Query M Best Lo Matches	-
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14 PCQRE 18
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-!- CATALYTIC ACTIVITY: Dihydrophloroglucinol + NADP(+) = phloroglucinol + NADPH.
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                                                                                                                                                                                                                                                                                                EVOKE BEHAVIORAL RESPONSES, ARE POTENT VASODILATORS AND SECRETAGOGUES, AND CONTRACT (DIRECTLY OR INDIRECTLY) MANY SMOOTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -!- MISCELLANEOUS: TEMPERATURE AND PH OPTIMA ARE 40 DEGREES CELSIUS AND 7.8 IN THE FORWARD DIRECTION.
                                                                                                                                                        TISSUE-Small intestine;

MEDLINE-953535Q1. PubMed-7541963;

Anderson W.G., Conlon J.M., Hazon N.;

"Characterization of the endogenous intestinal peptide that

"Thysiol. 268:R1359-R1364(1995).

"Interpretation of the endogenous intestinal peptide that

"Thysiol.";

"Thysi
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J. Biol. Chem. 264:4423-4427(1989).
-!- FUNCTION: FUNCTIONS IN THE PATHWAX OF ANAEROBIC DEGRADATION OF
                                     MEDIINE-86192829; PubMed-2422058; Collon J., W., Deacon C.F., O'Toole L., Thim L.; Collon J. I., I and II. two novel tachykinins from dogfish gut."; FEBS Lett. 200:111-116(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Firmicutes; Clostridia; Clostridiales; Eubacteriaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Haddock J.D., Ferry J.G.;
"Purification and properties of phloroglucinol reductase from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 23; DB 1; Length 13;
Pred. No. 9.3e+02;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 24; DB 1; Length 18; Pred. No. 9e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FCCA3FB01E2F3907 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Phloroglucinol reductase (EC 1.3.1.57) (Fragment).
Eubacterium oxidoreducens.
                                                                                                                                                                                                                                                                                                                                                            -! - SIMILARITY: BELONGS TO THE TACHYKININ FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tachykinin; Neuropeptide; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
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MEDLINE=89174692; PubMed=2925649;
                                                                                                                                                                                                                                                                                                                                                                             PIR; B24867; B24867.
InterPro: PR0020040; Tachykinin.
Pfam; PF02202; Tachykinin; I.
PROSITE; PS00267; TACHYKININ; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE, AND CHARACTERIZATION.
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40.0%;
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60.0%;
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Best Local Similarity
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| SPSNSKCPDG 10
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PHGR_EUBOX
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SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
SIMILARITY: BELONGS TO THE A-SUPERFAMILY OF CONOTOXINS. ALPHA-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-99242956; PubMed-10226369; Wolfender F., Fainzilber M., Wolfender J.L., Chu F., Ball H., Wolfender J.L., Chu F., Ball H., Wolfender J.L., Chu Burlingame A.L.; Indentification of tyrosine sulfation in Conus pennaceus conotoxins alpha-PnIB and alpha-PnIB: further investigation of labile sulfor and phosphopeptides by electrospray, matrix-assisted laser description/ionization (MALDI) and atmospheric pressure MALDI mass
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Postsynaptic neurotoxin; Neurotoxin; Toxin;
Acetylcholine receptor inhibitor; Amidation; Sulfation; 3D-structure.
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-i- FUNCTION: ALPHA-CONOTOXINS ACT ON POSTSYNAPTIC MEMBRANES, THEY BIND TO THE NICOTINIC ACETYLCHOLINE RECEPTORS (NACHR) AND THUS INHIBIT THEM. IN CONTRARY TO OTHER ALPHA-CONOTOXINS, WHICH ARE SELECTIVE FOR VERTEBRATE SKELETAL MUSCLE NACHR, THE CONUS PENNACEUS ALPHA-CONOTOXINS BLOCK NACHR IN MOLLUSKS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fainzilber M., Hasson A., Oren R., Burlingame A.L., Gordon D., Spira M.E., Zlotkin E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "New mollusc-specific alpha-conotoxins block Aplysia neuronal acetylcholine receptors.";
Biochemistry 33:9523-9529(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X-RAY CRYSTALLOGRAPHY (1.1 ANGSTROMS).
MEDLINE=96311277; PubMed-8740364;
Hu S.-H., Gehrmann J., Guddat L.W., Alewood P.F., Craik D.J.,
Martin J.L.;
                                                                                                                                                                                                                                                                                                                                                                              Conus pennaceus (Facthered cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda; Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=37335;
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Pred. No. 1.1e+03;
1; Mismatches 4; Indels
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05310FF95EC99005 CRC64;
                                                                                                                                                                                                                                                        01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                             16 AA.
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                                                                                                                                                                                             PRT;
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MEDLINE=94347719; PubMed=8068627;
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37.5%;
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RESULT

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Gaps

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1; Mismatches

3; Conservative

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                                                                                                                                                                   18
                                                                                                                                           Matches
                                                                                                                                                                                                                             RESULT 7
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15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1999 (Rel. 36, Last annotation update)
70 kDa peptidylprolyl isomerase (ES 5.2.1.8) (Peptidylprolyl cis-trans isomerase) (Cyclophilin) (PPiase) ($1205-06) (Fragment).
Pinus pinaster (Maritime pine)
                                                                                                                                                                                                                                     Regul. Pept. 65:185-196(1996).
-!- FUNCTION: MYOACTIVE PEPTIDE. INCREASES THE AMPLITUDE AND FREQUENCY OF SPONTANEOUS CONTRACTIONS AND TONUS OF HINDGUT MUSCLE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Electrophoresis 20:1098-1108(1999).
-!- FUNCTION: PPIASE THAT BINDS CALMODULIN (BY SIMILARITY).
-!- CATALYTIC ACTIVITY: CIS-TRANS ISOMERIZATION OF PROLINE IMIDIC
-!- PEPTIDE BONDS IN OLIGOPEPTIDES.
-!- MISCELLANEOUS: ON THE 2D-GEL THE DETERMINED PI OF THIS PROTEIN IS:
5.3, ITS MW IS: 72 kDa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plomion C., Costa P., Bahrman N., Frigerio J.-M.; "Genetic analysis of needle proteins in maritime pine. 1. Mapping dominant and codominant protein markers assayed on diploid tissue, in al haploid-based genetic map."; Silvae Genetica 46:161-165(1997).
                                                                                           Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; .
Insecta; Pterygota; Neoptera; Orthopteroidea; Dictyoptera; Blattaria; Blaberoidea; Blaberoidea; Leucophaea.
NCBL_TaxID=6988;
                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                      Muren J.E., Naessel D.R.; "Isolation of five tachykinin-related peptides from the midgut of the cockroach Leucophaea madera: existence of N-terminally extended
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Costa P., Pionneau C., Bauw G., Dubos C., Bahrman N., Kremer A., Frigerio J.-M., Plomion C.; "Separation and characterization of needle and xylem maritime pine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus.
NCBI_TaxID=71647;
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                                                                                                                                                                                                                                                                                                                                              Score 23; DB 1; Length 19;
Pred. No. 1.4e+03;
Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                            MOD_RES 19 19 AMIDATION.
SEQUENCE 19 AA; 1930 MW; 99B5471A011625E5 CRC64;
                                                                                                                                                                                                                                                                         -i- TISSUE SPECIFICITY: MIDGUT.
-i- SIMILARITY: SOME SIMILARITY TO TACHYKININS.
                                 30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
Tachykinin-related peptide 3 (LemTRP 3).
Leucophaea maderae (Madeira cockroach).
            19 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15 AA.
                                                                                                                                                                                                                                                                                                                                                                      4; Mismatches
                                                                                                                                                                                                                                                                                                 Tachykinin; Neuropeptide; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=99274088; PubMed=10344291;
                                                                                                                                                                              MEDLINE=97053012; PubMed=8897641;
                                                                                                                                                                                                                                                                                                                                                20.0%;
27.3%;
                                                                                                                                                                                                                                                                                                                                                                       3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                             12 KSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                            4 RAPGSKKAPSG 14
                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE.
TISSUE=Needle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE=Needle;
                                                                                                                                                                 TISSUE-Midgut;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       LT 6
_PINPS
FKB7_PINPS
P81104;
           TRP3_LEUMA
P81735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              proteins."
                                                                                                                                                                                                                             isoforms."
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                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                 Query Match
TRP3_LEUMA
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FKB7_PI
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MEDLINE-97444322; PubMed-9298951;
MEDLINE-97444322; PubMed-9298951;
MEDLINE-97444322; PubMed-9298951;
MEDLINE-97444322; PubMed-9298951;
MEDLINE-97444322; PubMed-9298951;
MEDLINE-97444322; PubMed-9298951;
MEDLINE-9744322; PubMed-9298951;
MEDLINE-9744322; PubMed-9298951;
MEDLINE-9744322; PubMed-9298951;
MEDLINE-9744322; PubMed-9298951;
MEDLINE-97444322; PubMed-9298951;
MEDLINE-9744322; PubMed-9298951;
MEDLINE-9744323; PubMed-9298951;
MEDLINE-9744323; PubMed-989851;
MEDLINE-9744323; PubMed-989851;
MEDLINE-9744323; PubMed-989851;
MEDLINE-9744323; PubMed-989851;
MEDLINE-9744333; PubMed-989851;
MEDLINE-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SULFATION OF TYR-15.
MEDLINE-99242956; PubMed-10226369;
MEDLINE-99242956; PubMed-10226369;
Molfender J.L., Chu F., Ball H., Wolfender F., Fainzilber M.,
Baldwin M.A., Burlingame A.L.;
"Identification of tyrosine sulfation in Conus pennaceus conotoxins
"Identification of tyrosine sulfation in Conus pennaceus conotoxins
alpha-PnIA and alpha-PnIB: further investigation of labile sulfo- and
phosphopetides by electrospray, marrix-assisted laser
desorption/ionization (MALDI) and atmospheric pressure MALDI mass
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBL_TaxID=37335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
-i- SIMILARITY: BELONGS TO THE FKBP-TYPE PPIASE FAMILY. InterPro; IPR001179; FKBP_PPIASE. PR0051FS FKBP_PPIASE. PR0051TE; PS00454; FKBP_PPIASE_2; PARTIAL. PR0SITE; PS50059; FKBP_PPIASE_2; PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                      15 AA; 1675 MW; 2B53999722277F3F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 22; DB 1; Le
Pred. No. 1.6e+03;
                                                                                                                                                                                                                                                                                Isomerase; Rotamase; Repeat; Calmodulin-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-1996 (Rel. 34, Created)
01-CCT-1996 (Rel. 34, Last sequence update)
15-UUN-2002 (Rel. 41, Last annotation update)
Alpha-conotoxin PnIB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19.1%; Scc. 100.0%; Pred No. 1... 0; Mismatches
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J. Mass Spectrom. 34:447-454(1999).
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Biochemistry 33:9523-9529(1994).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 100.

Les 4; Conservative
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TISSUE=Venom;
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P81627;
                                                                                                                                                             CD4_SHEEP
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Flengsrud R., Skjeldal L.;
"Two-dimensional gel electrophoresis separation and N-terminal
"Two-dimensional gel electrophoresis separation and N-terminal
gequence analysis of proteins from Clostridium pasteurianum W5.";
Electrophoresis 19:802-806(1998)
-:- MISCELLANBOUS: ON THE 2D-GEL THE DETERMINED PI OF THIS UNKNOWN
PROTEIN IS: 5.6, ITS MW IS: 29.5 kDa.

NON_TER 13 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=Wistar; TISSUE=Heart;
Li X.-P., Pleissner K.-P., Scheler C., Regitz-Zagrosek V., Salikov
Jungblut P.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (SEP-1998) to the SWISS-PROT data bank.
-!- MISCELLANEOUS: ON THE 2D-GEL THE DETERMINED PI OF THIS UNKNOWN PROTEIN IS: 8.9, ITS MW IS: 42 kDa.
NON_TER 8 8.0
                                                                                                                                                                                                                                                                                                                                                                 15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last anotation update)
Unknown protein from 2D-page of heart tissue (Spot P9) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
Unknown protein CP 41 from 2D-page (Fragment).
Clostridium pasteurianum.
Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
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                                                                     Length 16;
                                                                                                                4; Indels
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  AMIDATION.
05310FF95ED86AF5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 AA; 1029 MW; 9E0775A6C4140B06 CRC64;
                                                                Score 22; DB 1; Pred. No. 1.7e+03;
                                                                                                                                                                                                                                                                                                                         8 AA.
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                                                                                                                1; Mismatches
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                                                                  19.1%;
37.5%;
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                       1643 MW;
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                                                                                                                  3; Conservative
                                                                                                                                                                                                                                                                                                                         STANDARD;
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Matches 3; Conserv
  16
16 AA;
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nes 3; Conserv
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Best Local Similarity
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                                                                                                                                                             14 PCQRETPE 21
                                                                                                                                                                                                 7 PCALSNPD 14
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P81360;
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  MOD_RES
SEQUENCE
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Matches
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UH09_RAT
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0;

Gaps

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5; Mismatches

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STRAIN=Backokjam; TISSUE-Hemolymph;
Park C.-H., Kim H.R.;
"Characterization of high affinity juvenile hormone binding protein in the hemolymph of Bombyx mori L.";
Korean J. Zool. 37:495-503(1994).
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Lepidoptera; Glossata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ovis aries (Sheep).
Bukaryota: Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                         01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
T-cell surface glycoprotein CD4 (T-cell surface antigen T4/Leu-3)
(Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Classon B.J., Tsagaratos J., Kirszbaum L., Maddox J., McKay C.R., Brandon M., McKenzie I.F.C., Walker I.D.;
"The L3T4 antigen in mouse and the sheep equivalent are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Park C.-H.;
submitted (DEC-1998) to the SWISS-PROT data bank.
-! FUNCTION: PREVENTS JUVENILE HORMONE FROM BEING HYDROLYZED BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immunoglobulin-like."
Immunoglobulin-like.
Immunog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 21; DB 1; Length 20;
Pred. No. 3e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20 AA; 1928 MW; 421F09570FEA97EE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-2002 (Rel. 41, Last annotation update)
Juvenile hormone-binding protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa, Arthropoda, Mandibulata,
Insecta, Pterygota, Neoptera, Endopterygota,
Intrysia; Bombycoidea; Bombycidae; Bombyx.
NCBI_TaxID=7091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18.3%; Scor.
100.0%; Pred. No. cor.
100.0%; Mismatches
                                                                                                                                                                                                                                   20 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=86166694; PubMed=3082751;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bombyx mori (Silk moth).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IDENTIFICATION OF CYS-9.
| |:|: :: :
YSTEVSNMAGV 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
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Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                              2 QTKVNLLSAI 11
                                                                                                                                                                                                                                                                                             3 OTPIHVYSEI 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
nes 3; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=89437;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14 PCQRETPE 21
                                                                                                                                                                                                                                                                                                                                                           CXA2_CONAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FAMILY
                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                               CXA2_CONAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                       RESULT 14
  С
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                                                                                                                                                                                                                                                                                                                                                                                                EUR. J. BIOCHEM. 230:235-241(1995).

-1- FUNCTION: THIS PROTEIN IS ONE OF THE NUCLEAR-CODED POLYPEPTIDE CHAINS OF CYTOCHROME C OXIDASE, THE TERMINAL OXIDASE IN MITOCHOUDRIAL ELECTRON TRANSPORT.

-1- CATALYTIC ACTIVITY: 4 ferrocytochrome c + 0(2) = 4 ferricytochrome
                                                                                                                                                                                                                                                                                                                                  STRAIN-Wistar; TISSUE-Liver;
MEDLINE-95324529; PubMed=7601105;
Schaegger H., Noack H., Halangk W., Brandt U., von Jagow G.;
"Cytochrome-c oxidase in developing rat heart. Enzymic properties and amino-terminal sequences suggest identity of the fetal heart and the adult liver isoform.";
                                                                                                                                                                                                                                                                 Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                           Gaps
                                                                                                                                                                                               01-NOV-1995 (Rel. 32, Created)
Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Cytochrome c oxidase polypeptide VIIb, mitochondrial (EC 1.9.3.1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Arginine deiminase (EC 3.5.3.6) (ADI) (Arginine dihydrolase) (AD)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 20; DB 1; Length 10;
Pred. No. 2.1e+03;
2; Mismatches 0; Indels
                                                    Score 21; DB 1; Length 20;
Pred. No. 3e+03;
2; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptococcus pyogenes (serotype M5).
Bacteria; Firmicutes; Lactobacillales; Streptococcaceae;
GENERAL ESTERASES BY COMBINING WITH IT SPECIFICALLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10 AA; 1210 MW; CFC70EB771A33326 CRC64;
                               2090 MW; B336332F08AE2FB8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Streptococcal acid glycoprotein) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15 AA.
                                                                                                                                                                            10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2; Mismatches
          -!- SUBCELLULAR LOCATION: Secreted.
NON_TER 20 20
SEQUENCE 20 AA; 2090 MW; B33633
                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=Manfredo / Serotype M5;
MEDLINE=98298018; PubMed=9632565;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE, AND CHARACTERIZATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oxidoreductase; Mitochondrion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17.4%;
60.0%;
                                                    18.3%;
                                                  Query Match 18.3
Best Local Similarity 42.9
Matches 3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3; Conservative
                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=160491;
                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10116;
                                                                                               10 AIKSPCQ 16
                                                                                                                    4 ALLKPCK 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16 QRETP 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1::11
3 QKKTP 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ARCA OR SAGP.
                                                                                                                                                                                                                                              Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ARCA_STRP5
P58827;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                          SEOUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ARCA_STRP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                      RESULT 12
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-:- TSSUE SPECTRICLITY: Expressed by the venom duct.
-:- TASSUE SPECTROMETRY: MW-1572.5; METHOD-ELectrospray.
-:- SIMILARITY: BELONGS TO THE A-SUPERFAMILY OF CONOTOXINS. ALPHA-TYPE
                                                                                                                                                                                                                                                      Luo S., Kulak J.M., Cartier G.E., Jacobsen R.B., Yoshikami D.,
Colivera B.M., McIntosh J.M.;
Calivera B.M., McIntosh J.M.;
Colivera B.M.;
Colivera B.M.;
Colivera B.M.;
Colorina A.C. Colorina Cartifold B.C. Colorina Receptors and Colorina Cartifold B.C. Colorina Cartifold B.C. Colorina Cartifold B.C. Colorina Cartifold B.C. Cartifold B.C. Colorina Cartifold B.C. Colorina Cartifold B.C. Cartifol
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
Degnan B.A., Palmer J.M., Robson T., Jones C.E.D., Fischer M., Glanville M., Mellor G.D., Diamond A.G., Kehoe M.A., Goodacre J.A.; "Inhibition of human peripheral blood mononuclear cell proliferation by Streptococcus pyogenes cell extract is associated with arginine defininase activity."; Infect. Immun. 66:3050-3058(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
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Neogastropoda; Conoidea; Conidae; Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 20; DB 1; Length 10,
Pred. No. 3 2e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AMIDATION.
84EFE95FDC700155 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15 AA; 1657 MW; D21150201B00EE46 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 20; DB 1; I
Pred. No. 3.2e+03;
1; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Alpha-conotoxin AuIB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15 AA.
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Acetylcholine receptor inhibitor; Amidation
DISULFID 2 8
DISULFID 3 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE, SYNTHESIS, AND MASS SPECTROMETRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-99003392; PubMed-9786965;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17.4%;
40.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15 AA; 1578 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      37.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conus aulicus (Court cone).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
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7 PCFATNPD 14

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-1- SUBUNIT: HEXAMER CONTAINING 2 SETS OF 3 NONIDENTICAL CHAINS (ALPHA, BETA AND GAMAA), LINKED TO EACH OTHER BY DISULFIDE BONDS.
-1- MISCELLANBOUS: CONVERSION OF FIBRINOGEN TO FIBRIN IS TRIGGERED BY THROMBIN, WHICH CLEAVES FIBRINOPEPTIDES A AND B FROM ALPHA & BETA CHAINS, AND THUS EXPOSES THE N-TERMINAL POLYMERIZATION SITES RESPONSIBLE FOR THE FORMATION OF THE SOFT CLOT.

PEPTIDE

1 16 FIBRINOPEPTIDE A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                      Ceratotherium simum (White rhinoceros) (Square-lipped rhinoceros). Usukaryota Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Perissodactyla; Rhinocerotidae; Ceratotherium. NCBI_TaxID=9807;
                                                   01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Fibrinogen alpha chain [Contains: Fibrinopeptide A] (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                                                                                                                                                                                                       17.4%; Score 20; DB 1; Length 16; 80.0%; Pred. No. 3.5e+03; tive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                0958CBB6293F4C81 CRC64;
                           16 AA.
                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                  16 16
16 AA; 1639 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18 ETPEG 22
                        FIBA_CERSI
P14535;
                                                                                                                                                                                                                                                                                                                                                                                                  NON_TER
SEQUENCE
RESULT
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Search completed: December 4, 2002, 13:36:48 Job time : 12 secs

1000

g

OM protein

Run on:

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09jkO2 mus musculu
090518 human immun
090560 human immun
090560 human immun
092940 hordeum vul
099490 rattus sp.
051540 pseudomonas
099401 rattus norv
051811 homo sapien
046712 escherichia
0851f4 taraxacum (
                                                                                                                                                                             Q9qzy4 mus musculu
Q8s1f7 taraxacum (
                  Q9smc7 lycopersico
Q16167 homo sapien
Q905f2 human immun
                                                                                                                                                                                             O54809 mus musculu
                                                                                                                                                                                                      Q16332 homo sapien
Q93046 homo sapien
Q9uch4 homo sapien
                                            P82308 maia squina
Q96vh7 geotrichum
Q9k4x0 planktothri
                                                                                                                                                                                                               homo sapien
homo sapien
                                                                                                                                                                                                                                 Q8slg7 taraxacum (
Q8slf5 taraxacum (
Q95ay0 artemisia r
09r790 borrelia ga
           nycticebus
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STRAIN=KENTUCKY A;
MEDLINE=90064773; PubMed=2555546;
Marty R.N., Colle C.F., Grundy F.J., O'Callaghan D.J.;
Mapping the termini and intron of the spliced immediate-early transcript of equine herpesvirus 1.";
J. Virol. 63:5101-5110(1989).
J. Virol. 63:5101-5110(1989).
Hypothetical protein.
SEQUENCE 19 AA; 2067 MW; E920FD848CC97CC9 CRC64;
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Alphaherpesvirinae; Varicellovirus.
                                                                                                                                                                                                                                                                                                                                         01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Hypothetical 2.1 kDa protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 29; DB 12; Ed
Pred. No. 5.3e+02;
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01-MAY-2000 (TrEMBLrel. 13, Created)
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Q8SLF7
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Q8SLF5
Q95AY0
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55.6%;
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 Equine herpesvirus 1.
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Best Local Similarity
Matches 5; Conserv
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08428 homo sapien
09444 bacteriopha
094476 homo sapien
0360216 homo sapien
035556 pythium oli
041588 human immun
097792 borrelia bu
097310 borrelia af
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161.894 Million cell updates/sec
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         GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
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1 YQTKVNLLSAIKSPCQRETPEG 22
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sp_rodent:*
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sp_vertebrate:*
sp_unclassified:*
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Gapop 10.0 , Gapext 0.5
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6: sp_mammal:*
7: sp_mhc:*
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sp_bacteriap:*
sp_archeap:*
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DB seq length: 22
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Minimum Maximum

Sequence:

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Gaps

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Score 28; DB 11; Length 21; Pred. No. 8.8e+02; 2; Mismatches 5; Indels

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Strausberg R.; Strausberg R.; Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases. BUBL; BC006692; AAH06692.1; -. SEQUENCE 21 AA; 2315 MW; 6069BD703D0C1692 CRC64;
                                                                                                     24.38;
46.28;
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Best Local Similarity 83.3.
                                                                                                                Best Local Similarity 46.2
Matches 6; Conservative
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8 TALHLLPRGSSPC
                         SEQUENCE FROM N.A.
 NCBI_TaxID=10090;
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             01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
SebUDOMINIONIN-STI (Fragment).
Solanum tuberosum (Potato).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids I; Solanales; Solanaceae; Solanum.
NCBI_TaxID=4113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q92279;
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Unknown (protein for MG:7898).
"Mus musculus (Mouse).
"Mus musculus (Mouse).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mahmalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Musinae; Musinae; Musinae; Musinae; Musinae;
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Sukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Cracidae; Oreophasis.
NCBI_TaxID=125067;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
Chavez-Zamarripa P., Bermudez-Humaran L.G., Guzman-Velasco A.,
Chal-Garza C.H., Montes de Oca-Luna R.;
"Lost of restriction site DdeI, used for avian molecular sexing,
Oreophasis derblanus.";
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                                                                                                                             MEDLINE-94307252; PubMed-8033886;
Moreno M., Segura A., Garcia-Olmedo F.;
"Pseudothionin-St1, a potato peptide active against potato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 29; DB 13; Length 21;
Pred. No. 5.9e+02;
2: Mismatches 2; Indels
                                                                                                                                                                                                                                              DB 10; Length 20;
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01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Chrom-domain-helicase-DNA-binding protein 1 (Fragment).
                                                                                                                                                                               Eur. J. Biochem. 223:135-139(1994).
InterPro; IPR002118; Gamma-thionin.
Fram: PF00304; Gamma-thionin, EFF9D90708DF2F9D CRC64;
SEQUENCE 20 AA; 2311 MW; EFF9D90708DF2F9D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3C139D112DDF2A0E CRC64;
01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
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Pred. No. 5.6e+02;
3; Mismatches 6;
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EMBL: AF462044; AAL63358.1; -.
Helicase; DNA-binding.
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50.0%;
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Matches 5; Conservative
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"Subunit structure of bovine ESF (extracellular-matrix stabilizing factor(s)). A chondroltin sulfate proteoglycan with homology to human I alpha i (inter-alpha-trypsin inhibitors).";
FEBS Lett. 318:292-296(1993).
SEQUENCE 20 AA; 2143 MW; B2A6EB2B4AA76BE9 CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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MEDLINE-21429115; PubMed-11543634;
KENMOCHI N., Suzuki T., Uechi T., Magoori M., Kuniba M., Higa S.,
Watanabe K., Tanaka T.;
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EMBL; AB061206; BAB54956.1; -.
Ribosomal protein. 1
                                                                                 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
Pre-alpha-trypsin inhibitor HC3 component homolog (Fragment).
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Mitochondrial ribosomal protein S23 (Fragment).
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20 AA
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PRT;
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3 NILDPLKAP 11
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12 LPSPCQ 17
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Binum D.D., Clark A.M., Gouw L.G., Ptacek L.J., Fu Y.-H.;

Einum D.D., Clark a.M., Gouw L.G., Ptacek L.J., Fu Y.-H.;

Fine product of a novel SCA7 splice variant is enriched within the central nervous system.";

Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.

EMBL: AF332956; AAL79807.1; -.
                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Pred. No. 1.4e+03;
0; Mismatches 2; Indels
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MEDILINE-99350412; Pubmed-10419946;
Mindich L., Olao X., Qiao J., Onodera S., Romantschuk M.,
Hoogstraten D.;
                                          Score 27; DB 4; Length 22;
Pred. No. 1.4e+03;
0; Mismatches 1; Indels
                      A079BB04B5E5F7A6 CRC64;
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22 AA; 2273 MW; B2F9FB5DE040C571 CRC64;
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Last annotation update)
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Viruses; dsRNA viruses; Cystoviridae; Cystovirus.
NCBL_TaxID=90887;
                                                                                                                                                           22 AA.
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                                                                                                                                                               08TE28;
01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence
01-JUN-2002 (TrEMBLrel. 21, Last annotati
Spinocerebellar ataxia type 7 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last seq
01-DEC-2001 (TrEMBLrel. 19, Last ann
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J. Bacteriol. 181:4505-4508(1999).
EMBL; AF125678; AAD22559.1; -.
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              22
2536 MW;
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                                          Query Match 23.5%;
Best Local Similarity 83.3%;
Matches 5; Conservative
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                                                                                                                                                          PRELIMINARY;
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             22
22 AA;
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"A GAG deletion within two consecutive GAG sequences in exon 2 of the arginine vasopressin gene in Chinese.";
Submitted (MAY-2000) to the EMBL/GenBank/DDBJ databases.
EMBL: AF272848; AAG16747.1;
HISSP: P01180; 1NPO.
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MEDLINE=95064785; PubMed=7974465;

Pogdell A., Olerup O.,

"The DQA1*0104 allele is carried by DRB1*1001- and DRB1*1401-positive haplotypes in Caucasians, Africans and Orientals.";

Tissue Antigens 44:19-24(1994).

EMBL, $75685; AAB32621.1;

NON_TER

SEQUENCE 18 AA; 1708 MW; 09749252525FC CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Pred. No. 1.6e+03;
1; Mismatches 1; Indels
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Best Local Similarity 45.5%; Pred. No. 1.7e+03;
Matches 5; Conservative 2; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7EFD60BD634B6B15 CRC64;
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01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Human leukocyte antigen alpha chain (Fragment).
                                                01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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17 AA
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66.7%;
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SEQUENCE 17 AA; 1923 MW;
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Tilly K., Casjens S., Stevenson B., Bono J.L., Samuels D.S., Hogan D.,
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Walker B.D., Neumann A.U., Vermund S.H., Mestecky J., Jackson S.,
Fenamore E., Cao Y., Gao F., Kalams S., Kunstman K.J., McDonald D.,
McWilliams N., Trkola A., Moore J.P., Wolinsky S.M.;
Immunological and virological analyses of persons infected by human
immunodeficiency virus type 1 while participating in trials of
recombinant gpl20 subunit vaccines.";
EMBL; U84837; AAC58876.1;
AIDS: Coat protein; Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "he Borrelia burgdorferi circular plasmid cp26: conservation of plasmid structure and targeted inactivation of the ospC gene."; Mol. Microbiol. 25:361-374(1997).
EMBL: 903693; AAC45521.1; -.
InterPro: IPR01800; Lipoprotein_6.
Fian; PF01441; Lipoprotein_6; 1.
NON_TER
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Last annotation update)
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NCBI_TaxID=139;
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Last annotation update)
Viruses; Retroid viruses; Retroviridae; Lentivirus.
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75.0%; Pred. No. 6.7e+05;
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01-MAY-2000 (TrEMBLrel. 13, Last seg
01-DEC-2001 (TrEMBLrel. 19, Last ann
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                                                                STRAIN=PC13;
MEDLINE=98105804; Pubmed=9445059;
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57.1%;
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Best Local Similarity 5/....
Local 4; Conservative
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                                                SEQUENCE FROM N.A.
             NCBI_TaxID=11676;
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2 PCVKLTP 8
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Q9R3T0
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NCBL_TaxID-41045;
                                                                                                                   Homo sapiens (Human).
Washaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=94040777; PubMed=8224877;
Figlewicz D.A., Rouleau G.A., Krizus A., Julien J.P.;
Figlewicz D.A., Rouleau G.A., Krizus A., Julien J.P.;
Polymorphism in the multi-phosphorylation domain of the human neurofilament heavy-subunit-encoding gene.";
Gene 132:297-300(1993).

EMBL, S66488; AAB28609.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                      ;
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                                                                                                                                                                                                                                                                                                                                                                   Score 26; DB 4; Length 20;
Pred. No. 1.9e+03;
3; Mismatches 2; Indels
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C 041588;
O1-JAN-1998 (TrEMBLrel. 05, Created)
D1-JAN-1998 (TrEMBLrel. 05, Last sequence update)
D7 01-JAN-1998 (TrEMBLrel. 21, Last annotation update)
DF Envelope glycoprotein (Fragment).
GN ENV. ...
GN Human immunodeficiency virus type 1.*
                                                                                                                                                                                                                                                                                                                                    20 AA; 2198 MW; E9A0975B41FD8082 CRC64;
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Hypothetical 2.5 kDa protein.
                                                Last sequence update)
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Pred. No. 2e+03;
 20 AA.
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                                                                                 Neurofilament heavy subunit (Fragment)
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EMBL; U28355, AAA70034.1; -.
Hypothetical protein; Mitochodrion.
SEQUENCE 21 AA; 2491 MW; 883B7AE
                                  Created)
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 PRT;
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50.0%;
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5; Conservative
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 PRELIMINARY;
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Matches 5; Conserv
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15 KINLLS 20
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OS Borrelia afzelii.

OC Bacteria; Spirochaetales; Spirochaetaceae; Borrelia.

OX NCBL_TaxID=29518;
RN [1]
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RN [1]
RX MEDLINE=9745064; PubMed=9282748;
RA Tilly K., Casjens S., Stevenson B., Bono J.L., Samuels D.S., Hogan D.,
RR Fosa P.;
RA FOSA P.;
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AAW85274
AAW85281
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AAJ03456
AAJ033475
AAJ03560
AAJ03645
AAEZ1999
                                                                                                         ABB20613
AAM58385
AAM70869
       ABB33440
ABB18899
                  AAM66619
AAM14492
                                                              AAJ03168
AAJ03255
                          AAM26905
                                                      AAJ03092
                                                          AAJ03149
                                                                                                 AAR99385
                                                                                                                     AAM18710
December 4, 2002, 13:32:34; Search time 35 Seconds (without alignments) 83.758 Million cell updates/sec
   GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                             Potal number of hits satisfying chosen parameters:
                                                                     908470 seqs, 133250620 residues
                                              115
1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                   · protein search, using sw model
                                                          BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                 A_Geneseq_101002:*
                                          US-09-754-004-2
                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 22
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Scoring table:

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Peptide #946 encod Protein #898 encod Human brain expres Human bone marrow Peptide #926 encod Peptide #912 encod Peptide #912 encod Peptide #912 encod Human peptide enco Tolerogenic peptid Helper T-cell peptide Peptide T-cell peptide Peptide Peptide Peptide Peptide Peptide Peptide T-cell peptide Peptides C virus Hepatitis C virus

ALIGNMENTS

Peptide #5144 enco Peptide #5199 enco Human peptide enco Telomerase peptide

Human secreted pro

Human brain expres

33 28.7 19 22 AAM70869	33 28.7 19 22 AAM18710	33 28.7 19	ABG37943	32 27.8 9 21 AAY86759	19			ALIGNMENTS			RESULT 1	AAW22950	ID AAW22950 standard; peptide; 22 AA.	XX	AC AAW22950;	XX	DT 05-MAR-1998 (first entry)	XX	DE hTNF-alpha epitope 87-108.		KW tumour necrosis factor alpha; INF; epitope; antibody; antagonist;			OS Homo sapiens.		PN W09730088-A2.	PD 21-AIG-1997		PF 17-FEB-1997; 97WO-GB00435.	-	PR 16-FEB-1996; 96US-0602272.	XX	PA (KENN-) KENNEDY INST RHEUMATOLOGY.		PI Elliott MJH, Feldmann M, Maini RN;		DR WPI; 1997-424980/39.		Treating and preventing cardiovascular, cerebrovascul	PT thrombotic disorder, or decreasing plasma fibrinogen - by	PT administration of tumour necrosis factor antagonist
A_Geneseq_101002:*	1: /SIDS2/gcgdata/geneseg/genesegp-embl/AA1980.DAT:*	2: /SIDS2/qcqdata/qeneseq/qeneseqp-embl/AA1981.DAT:*	3: /SIDS2/qcqdata/qeneseq/qeneseqp-embl/AA1982.DAT:*	4: /SIDS2/gcgdata/geneseg/genesegp-embl/AA1983.DAT:*	5: /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*	6: /SIDS2/gcgdata/geneseq/geneseap-embl/AA1985.DAT:*	7: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1986.DAT:*	8: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:*	9: /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1988.DAT:*	`	`	12: /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1991.DAT:*	`	`	`	16: /SIDS2/qcqdata/qeneseq/qeneseqp-emb1/AA1995.DAT:*	` .	18: /SIDS2/qcqdata/qeneseq/qeneseqp-emb1/AA1997.DAT:*		20: /SIDS2/gcgdata/geneseg/genesegp-embl/AA1999.DAT:*	` `	. `	. `	No. is the number of results predicted by chance	e greater than or equal to the score of the result being printed,	is derived by analysis of the total score distribution.	SIIMMARIES	dp.	Query	core Match Length DB ID Description		100.0 22 18 AAW22950	100.0 22 19 AAW59149	58.3 22 11 AAR05485	54.8 17 21 AAB11028	41.7 17 11 AAR05469 Tumour necrosis	35.7 14 21 AAY90384 Tumour necrosis	34.8 22 16 AAR87688 h-TNF (73-94).	14 11 AAR06772 Tumour necrosis		38 33.0 I/ L> AARbU233 hTNF-alpha Llp. S

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Score

Result . 9

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Disulfide-bond
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                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR05485;
                                                                                                                                                                                                              Query Match
Best Local
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                                                                disorders, thrombotic disorders, or illnesses or pathologies which can be treather by decreasing plasma fibrinogen. Typical conditions which can be treated include acute mycardial infarction, deep vein thromboshiesis, stroke, thromboembolic disorder or ischemic events. In one embodiment the antagonist used is an anti-TNF antibody (optionally chimeric, humanised or resurfaced), preferably one which binds to an epitope comprising at least 5 amino acids within the region TNF-alpha 87-108 and/or TNF-alpha 59-80. The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TNF-alpha) corresponding to amino acid position 87-108 of the full length protein. This region is an epitope and is recognized and/or binds with anti-TNF activity. This fragment is used to describe a novel method of treating or preventing acquired immune deficiency disease and infection with human immune deficiency virus (HIV) by co-administration of interleukin-2 (IL-2) and a chimeric antibody (Ab), or its fragment, against tumour necrosis factor (TNF). IL-2 and Ab are administered by infection, orally, topically or are produced from gene therapy vectors,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tumour necrosis factor-alpha; epitope; human immunodeficiency virus; HIV; TNF-alpha; anti-TNF; antibody; treatment; prevention; infection; acquired immune deficiency disease; interleukin-2; IL-2; gene therapy; systemic toxicity; CD4+ cell; inflammation; immune response.
                                                                                                                                                                                                                                                                                                                                        Gaps
                                                   The invention relates to the use of an antagonist of tumour necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This peptide sequence is a fragment of tumour necrosis factor-alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Treating or preventing acquired immune deficiency syndrome using interleukin-2 - and antibodies against tumour necrosis factor, to reduce side effects of the treatment
                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                       Length 22;
                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human tumour necrosis factor-alpha epitope pos. 87-108.
                                                                                                                                                                                                                                                                                                     100.0%; Score 115; DB 18;
ilarity 100.0%; Pred. No. 4.1e-12;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Woody JN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 10; Page 11; 50pp; English.
                Claim 10; Page 14; 57pp; English.
                                                                                                                                                                                                                                                                                                                                                                                              1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW59149 standard; peptide; 22
                                                                                                                                                                                                                                                                                                                                                                           1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97WO-US16116
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      McCloskey RV, Walker RE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (CENZ ) CENTOCOR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1998-230303/20.
                                                                                                                                                                                                                                  the 87-108 epitope.
                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                                                                     22 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-MAR-1998
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                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                         Query Match
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AAW59149
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but preferably by intravenous injection or infusion. Usual doses are 0.01-100 (especially 1-40) mg/kg/day, in 1-6 portions or in sustained release form. Further doses may be given, just before or during relapse. Inhibition of TWR alpha by Ab alleviates some of the systemic toxicity associated with administration of IL-2 (which increases the level of CD4-cells but also stimulates production of TNF, high levels of which cause unwanted inflammatory and immunological responses). Blockade of TNF allows administration of higher doses of IL-2 than would be otherwise possible.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New tumour necrosis factor derived peptides- for treating or preventing neoplastic and autoimmune diseases, infection, inflammation and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X= G-NH-CHM-CO, G-NH-CHM-CO-W, G-R-NH-CHM-CO or G-R-NH-CHM-CO-W; Y= Z, NH-CHQ-COZ, V-NH-CHQ-COZ, NH-CHQ-CO-U-Z or V-NH-CHQ-CO-U-Z, G=H or an amino protecting group; or G and Z together are a covalent bond or the gp. CO(CH2)aNH; a=1-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  formula X-A-Y.
A= QRETPEGAEAKP, HRETPEBAEARP, HRETPEBAEPMA, PRDTPEGAELKP, PGLQEP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ssidue Il is attached \,\mbox{Ac} and to residue I22 \,\mbox{NH2}. peptide is an example of a highly generic sequence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           zechel JC;
                                                                                                                                                                                                                                                                                                                                                                                                   Length 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tumour necrosis factor; TNF; neoplastic disease; autoin disease; infection; inflammation; transplant rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 115; DB 19;
100.0%; Pred. No. 4.1e-12;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Schmied B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumour necrosis factor derived peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAR05485 standard; protein; 22 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 YQTKVNLLSAIKSPCQRETPEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 YQTKVNLLSAIKSPCQRETPEG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88DE-3841759
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/label=Hcy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGPQGP or PGLQGP;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
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AAR05469 standard; protein; 17 AA.
                      12 KSPCQRETPEG 22
                                     1 KSPCQRETPEG 11
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                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                   AAR05469;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13
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                                                                                                      RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This invention describes a novel immunoadsorber (A) for treating sepsis which comprises a carrier of organic or synthetic polymer having bound to it poly- or monoclonal antibodies (Abl) against the complement factors cla and/or Csa and against lippoplysaccharide (LPS). Optionally other antibodies (Ab2) directed against other mediators of sepsis are also attached to the carrier. The products of the invention have anti-inflammatory and antisepsis activity. (A) are used for treatment, particularly by plasmapheresis, of sepsis and septic shock. The combination of antibodies used can be tailored to the requirements of
R, U, V and W= peptide chains of 1-4 naturally occuring alpha aminoacids; M and O= H, isopropyl, CHMe.Et, phenyl, CH(OH), 3-indolyl- or 4-inidazoly-methyl or (CH2)DT; D=1-6; T= OH, MeS, MeS, isopropyl, phenyl (opt. 4-OH, substd.), HS, NH2, COOH, CONH2, or NH2 C (NH) NH; or M ans Q together are (CH2)c-S-S-(CH2)d, (CH2)eCO NH-(CH2)f or CH2)zenH CO(CH2)gNH CO(CH2) f; c and d=1-4; e and f=1-6; g=1-12. The peptide is a low mol. wt. deriv. of TNF. See also DE3841753-55, DE3841759, DE3841761-64, DE3841767-68.
                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Immunogenic; antigen; C3a; C5a; IL10; IL1-alpha; IL1-beta; IL6; TNF-alpha; immunoadsorber; treatment; sepsis; complement factor; anti-inflammatory; antisepsis; plasmapheresis; septic shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Immunoadsorber for treating sepsis, comprises polymeric support carrying antibodies specific for complement factors and
                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immunogenic peptide #2 for raising human TNF-alpha antigen.
                                                                                                                                                                                                  Score 67; DB 11; Length 22;
Pred. No. 0.00041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          54.8%; Score 63; DB 21; Length 17
100.0%; Pred. No. 0.0014;
ive 0; Mismatches 0; Indels
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0
                                                                                                                                                                                       58.3%; sc. 100.0%; Pred. No. 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (PRIV-) PRIVATES INST BIOSERV GMBH.
                                                                                                                                                                                                                                                                                                                                                                                 AAB11028 standard; peptide; 17 AA.
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                                                                                                                                                                                                  Query Match 58.3
Best Local Similarity 100.
Matches 12; Conservative
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                                                                                                                                                                                                                                                                11 IKSPCORETPEG 22
                                                                                                                                                                                                                                                                                   1 IKSPCORETPEG 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Heinrich H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-FEB-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                 AAB11028;
                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                RESULT 4
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Y= Z. NH-CHM-CO, G-NH-CHQ-COZ, NH-CHQ-CO-U-Z or V-NH-CHQ-CO-U-Z;
G= H or an amino protecting group; or G and Z together are a covalent bond or the gp. CO(CH2)aNH; a=1-12;
K. U, V and W= peptide chains of 1-4 naturally occuring alpha aminoacids;
M and Q= H, isopropyl, CHMe.Et, phenyl, CH(OH), 3-indolyl- or
4-imidazoly-methyl or (CH2)bT; b=1-6;
A -imidazoly-methyl or (CH2)bT; b=1-6;
CONH2, or NH2 C (NH) NH; or
CONH2, or NH2 C (NH) NH; or
CONH2, or COCH2) f; c and d=1-4; e and f=1-6; g=1-12.
The peptide is a low mol. wt. deriv. of TNF.
See also DE3841753-55, DE3841759, DE3841761-64, DE3841767-68.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New tumour necrosis factor derived peptides- for treating or preventing neoplastic and autoimmune diseases, infection, inflammation and transplant rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps

    A- QRETPEGAEAKP, HRETPEWAEAKP, HRETPEEAEPMA, PRDTPEGAELKP, PGLQEP,

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            To residue S1 is attached Ac and to residue T17 NH2. This peptide is an example of a highly generic sequence of the formula x \cdot A \cdot Y \cdot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             zechel JC;
                                                                                                               Tumour necrosis factor; TNF; neoplastic disease; autoimmune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 48; DB 11; Length 17; Pred. No. 0.44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Indels
                                                                                                                                          disease; infection; inflammation; transplant rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В,
                                                       Tumour necrosis factor derived peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schmied
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 1; Page 7; 16pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haupt A,
                                                                                                                                                                                                                                                                                                                                                                      88DE-3841759
                                                                                                                                                                                                                                                                                                                                                                                                                                 88DE-3841759
23-OCT-1990 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 90.0
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1990-186576/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPCORETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Daum L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PGLQGP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BADI ) BASF AG
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RESULT 6

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Gaps

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11; Conservative

Matches

Best Local Similarity

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h-TNF (73-94).
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                                                                                                                                                                   12-MAR-1991;
                                                                                                                                                                                                                                                       Ferrante A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-OCT-1990
                                                                                                                                                                                                      13-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DE3841759-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-JUN-1990.
                                                                                                                     AU9344664-A
                                                                                                                                             02-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                               Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR06772;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR06772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This sequence represents a fragment of a tumour necrosis factor inhibitor of the invention. The inhibitors are antagonists of tumour necrosis factor-alpha (TNF-alpha), comprising less than 15 amino acids, having restricted conformation and capable of binding to TNF p55 and/or TNF p75 receptor. The inhibitors are useful for treating a disease or condition mediated by TNF-alpha such as sepsis syndrome, cachexia, circulatory collapse and shock resulting from acute or chronic bacterial infection; acute and chronic parasitic or infectious processes, including bacterial, viral and fungal infections; acute and chronic immune and autoimmune disorder, such as systemic lupus erythematosus and reunatoid arthritis, alcohol-induced hepatitis; chronic inflammatory disorder such as sarcoidosis and Crohn's disease; vascular inflammatory disorder such as disseminated intravascular coagulation, graft-versus-host disease, Rawasaki's disease, and malignant disorders involving TNF-alpha-secreting
                                                                                                           cachexia;
                                                                                                       Tumour necrosis factor; inhibitor; TNF-alpha; TNF p55 receptor; cachexitors immune disorder; sepsis syndrome; circulatory collapse; infection; immune disorder; systemic lupus erythematosus; rheumatoid arthritis; alcohol-induced hepatitis; inflammatory disorder; sarcoidosis; Crohn's disease; vascular inflammatory disease; therapy; disseminated intravascular coaqulation; graft-versus-host disease; Rawasaki's disease; malignant disorder; TNF-alpha-secreting tumour.
                                                                                                                                                                                                                                                                                                                                                                                                    Novel tumor necrosis factor inhibitors for treating disorders mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                             by tumor necrosis factor alpha activity e.g. autoimmune disorders pathogenic infections, malignant tumors and cachexia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 41; DB 21; Length 14;
Pred. No. 5.2;
0; Mismatches 1; Indels
                                                                                  Tumour necrosis factor inhibitor peptide #110.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 18; Column 28; 17pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR87688 standard; peptide; 22 AA.
            AAY90384 standard; peptide; 14 AA
                                                                                                                                                                                                                                                                                                                              (UYJE-) UNIV JEFFERSON THOMAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         35.7%;
87.5%;
                                                                                                                                                                                                                                                                                                     95US-0377781
                                                                                                                                                                                                                                                                               95US-0377781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       - 10-MAY_1996 (first entry)
                                                             15-JAN-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 87.5.
                                                                                                                                                                                                                                                                                                                                                                             WPI; 2000-571331/53.
                                                                                                                                                                                                                                                                                                                                                      Jameson BA, Noe M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15 CORETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-JAN-1995;
                                                                                                                                                                                                                                                                                                     24-JAN-1995;
                                                                                                                                                                                                                               US6107273-A.
                                                                                                                                                                                                                                                       22-AUG-2000
                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AÅR87688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 7
AAR87688
AAY90384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
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New peptides are provided which prime neutrophils for superoxide production and an enhanced respiratory burst following treatment production and an enhanced respiratory burst following treatment with N-formyl-L-methionine-L-leucyl-L-phenylalanine. The peptides are described generically. They are fragments from the region of amino acids 54 to 94 of human TNF, or analogues of such fragments. Their neutrophil-stimulating activity can be used in the treatment of diseases such as AIDS, cancer, rheumatoid arthritis, ARDS, cystic fibrosis, tuberculosis, Crofn's disease, sarcoidosis, leprosy, syphilis and malaria. The present sequence is one of 6 specific peptides having the above activity and which fit the the generic formula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
TNF; tumour necrosis factor; neutrophil; superoxide; inflammation; AIDS, cancer; rheumatoid arthritis; ARDS; cystic fibrosis; tuberculosis; TB; Crohn's disease; sarcoidosis; leprosy; syphilis; malaria; adult respiratory distress syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tumour necrosis factor; TNF; neoplastic disease; autoimmune disease; infection; inflammation; transplant rejection; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel peptides which stimulate neutrophils - are fragments of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 16;
. 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 40;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tumour necrosis factor derived peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Widmer F;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 15; 51pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR06772 standard; protein; 14 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             34.8%; Scc.
100.0%; Pre
0; '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (PEPT-) PEPTIDE TECHNOLOGY LTD.
                                                                                                                                                                                                                                                                                                                                                                                                       91AU-0074762.
93AU-0044664.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88DE-3841759.
                                                                                                                                                                                                                                                                                                                                           91AU-0074762.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rathjen DA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tumour necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
8; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1995-115742/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15 YQTKVNLL 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 YQTKVNLL 8
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WPI; 2000-282855/24
                                                                                                                                                             14 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                    16 QRETPEG 22
                                                                                                                                                                                                                                                                                                                                             hTNF-alpha tip.
                                                                                                                                                                                                                               1 QRETPEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-FEB-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9418325-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-AUG-1994
                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                        AAR60233;
                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                   RESULT 10
                                                                                                                                                                                                                                                                           AAR60233
                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                      qq
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                                                                                                                                                                  X= G-NH-CHM-CO, G-NH-CHM-CO-W, G-R-NH-CHM-CO or G-R-NH-CHM-CO-W;
Y= Z, NH-CHQ-COZ, V-NH-CHQ-COZ, NH-CHQ-CO-U-Z or V-NH-CHQ-CO-U-Z;
G= H or an amino protecting group; or G and Z together are a coalent bond or the gp. CO(CHZ)aNH; a=1-12;
Covalent bond or the gp. CO(CHZ)aNH; a=1-12;
M and W= peptide chains of 1-4 naturally occuring alpha aminoacids;
M and Q= H, isopropyl, CHMe.Et, phenyl, CH(OH), 3-indolyl- or
4-imidazoly-methyl or (CHZ)bT; b=1-6;
                                                                        New tumour necrosis factor derived peptides- for treating or preventing neoplastic and autoimmune diseases, infection, inflammation and transplant rejection.
                                                                                                                                                                                                                                                COOH,
                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                             T= OH, MeO, MeS, isopropyl, phenyl (opt. 4-OH, substd.), HS, NH2, CONH2, or NH2 C (NH) NH; or M ans Q together are (CH2)c-S-S-(CH2)d, (CH2)eCO NH-(CH2)f or CH2)zeNH CO(CH2)ghH CO(CH2) f; c and d=1-4; e and f=1-6; g=1-12. The peptide is a low mol. wt. deriv. of TNF.

See also DE3841753-55, DE3841759, DE3841761-64, DE3841767-68.
                                                                                                                                                 HRETPEWAEAKP, HRETPEEAEPMA, PROTPEGAELKP, PGLQEP,
                                                                                                                                                                                                                                                                                                                                                      .<u>`</u>
                                                                                                                                 This peptide is an example of a highly generic sequence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor alpha; TNF-alpha; human; mouse; oedema;
                                     zechel JC;
                                                                                                                                                                                                                                                                                                                                   Length 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bloc A, Fransen L;
                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                     Walker N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tumour necrosis factor alpha derived peptide #1.
                                                                                                                                                                                                                                                                                                                                 33.0%; Score 38; DB 11;
100.0%; Pred. No. 16;
tive 0; Mismatches 0.
                                    Schmied B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pugin J,
                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY82194 standard; peptide; 14 AA.
                                                                                                              Example 40; Page 13; 16pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          proinflammatory; pulmonary oedema
                                                                                                                                                                                                                                                                                                                                    33.00,
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98EP-0870180.
98EP-0870198.
98EP-0870222.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99WO-EP05806.
88DE-3841759
                                     Haupt A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Baetselier P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (INNO-) INNOGENETICS NV.
                                                                                                                                          X-A-Y
                                                       WPI; 1990-186576/25
                                                                                                                                                                                                                                                                                                                                           Local Similarity
nes 7; Conserv
                                                                                                                                                            PGLQGP;
                                     Daum L,
                                                                                                                                                                                                                                                                                                                14 AA;
                                                                                                                                                  QRETPEGAEAKP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  necrosis
                                                                                                                                                                                                                                                                                                                                                                       16 ORETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                 WO200009149-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               De
De
                  (BADI ) BASF
12-DEC-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .0-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-SEP-1998;
21-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-FEB-2000
                                                                                                                                                           PGPQGP or
                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lucas R,
                                     Bohm HJ,
                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tumour
                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                              AAY82194
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The present invention describes the use of peptides comprising a chain of 7-17 contiguous amino acids derived from the Ser100-Gluil6 region of human tumour necrosis factor-alpha (TNF-alpha), or Ser99-Gluil5 region of mouse TNF-alpha, for treating oedema. The peptides form pharmaceutical compositions for treating oedema, especially pulmonary oedema. The peptides are non-toxic, whilst retaining the oedema resorption inducing capacity as TNF. The present sequence represents a specifically claimed TNF-alpha peptide from the present invention.
Use of peptides derived from human or mouse tissue necrosis factor-alpha (TNF-alpha), and comprising 7-17 contiguous amino acids, for preventing or treating oedema -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TNF-alpha; tumor necrosis factor-alpha; tip peptide; mutein; cancer; sepsis; inflammation; cytokine; metastasis; lectin; adhesion; mutagenesis; trypanoside.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The TNF-alpha tip peptides given in AAR60232-42 were modified with vierminal biotin-cly-Gly moleties and were used to demonstrate that the tip region of mouse and human TNF-alpha contains the trypanosomal and lectin-like activities of the molecule and is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New tumour necrosis factor -alpha muteins, antibodies and antisense peptide(s) - used in the treatment of diseases and conditions associated with the in vivo activities of TNF-A eg cancer, sepsis, inflammation, etc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33.0%; Score 38; DB 21; Length 14; 100.0%; Pred. No. 16; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "N-terminal biotin Gly-Gly"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR60233 standard; peptide; 17 AA.
                                                                                                                                                                       Claim 5; Page 16; 26pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93EP-0400262.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 33.0
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (INNO-) INNOGENETICS NV
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WO200140296-A1
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                                                                                                                                                           Homo sapiens.
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                                                               06-SEP-2001
                                                                                                                                                                                             07-JUN-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                              AAG64014;
                                                                                                                                                                                                                                                                    Mao Y,
         RESULT 12
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                   AAG64014
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                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                     Use of peptides derived from human or mouse tissue necrosis factor-alpha (TNF-alpha), and comprising 7-17 contiguous amino acids, for preventing or treating oedema
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0
                                                                                                                                                                                                              Tumour necrosis factor alpha; TNF-alpha; human; mouse; oedema;
proinflammatory; pulmonary oedema; cyclic.
                                                                                                                                                                                             Tumour necrosis factor alpha derived circularised peptide #1.
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                                    DB 15; Length 17;
20;
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                                   Score 38; DB 1
Pred. No. 20;
0; Mismatches
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Mismatches
is involved in TNF-induced lethal shock
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                             33.0%; Scur.
100.0%; Pre
0, 1
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100.0%; Pre
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                                                                                                                                        AAY82196 standard; peptide; 17
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98EP-0870198.
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                                                      7; Conservative
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                                   Query Match
Best Local Similarity
Matches 7; Conserv
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Matches 7; Conserv
                  17 AA;
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                                                                        16 QRETPEG 22
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3 QRETPEG 9
                                                                                          3 QRETPEG 9
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                   Sequence
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                                                                                                                       RESULT 11
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The invention relates to an isolated polypeptide of human cytochrome c domain-containing tumour necrosis factor receptor/nerve growth factor receptor (TNFR/NGFR) protein 51. The polypeptide comprises a sequence of 461 amino acids, or its fragment, analogue or derivative. The polypeptide and the polynucleotide encoding it are useful in the diagnosis and treatment of malignant tumours, haemopathy, HIV infection, immunological diseases and inflammation. The present sequence is the N-terminus of the polypeptide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human cytochrome c domain-containing TNFR/NGFR protein 51 and encoded polynucleotide, applicable in diagnosis and treatment of malignant tumor, hemopathy, HIV infection, immunological diseases and various
                                                                                                                                                                         Human cytochrome C domain-containing TNFR/NGFR protein 51 N-terminus.
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                                                                                                                                                                                                                               Human; cytochrome c domain; tumour necrosis factor receptor; TNFR; nerve growth factor receptor; NFR; TNFR/NGTR protein 51; cancer; haemopathy; human immunodeficiency virus; HIV; infection; immunological disease; inflammation; antiinflammatory; cytostatic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 37; DB 22;
Pred. No. 26;
1; Mismatches 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOR-) BIOROAD GENE DEV LTD SHANGHAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example.5; Page 14; 37pp; Chinese.
AAG64014 standard; Peptide; 15 AA.
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                                                                                                                                                                                                                                                                                                                                                        immunomodulatory; haemostatic.
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50.0%;
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                                                                                                                  (first entry)
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15 AA;
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09-AUG-2001

Penn SG,

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measuring human gene expression in a sample derived from human heart (see ABA21535-ABA41305). The present sequence is a protein encoded by one such probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardlovascular disease. Hypertension, cardiac arrhythmias and congenital heart disease. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human brain expressed single exon probe encoded protein SEQ ID NO: 26330
                                                                                                                                                                                          exon nucleic acid probes for analyzing gene expression in human
                                                                                                                                                                                                                                                                                      The present invention relates to single exon nucleic acid probes for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; brain expressed exon; gene expression analysis; probe; microarray; Alzhelmer's disease; multiple sclerosis; schizophrenia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31.3%; Score 36; DB 22; Length 17; 66.7%; Pred. No. 44; tive 1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                 Claim 15; SEQ ID No 20669; 530pp; English.
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                                                                                                                 Chen W, Rank DR;
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                                                                          (MOLE-) MOLECULAR DYNAMICS INC.
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2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-0236359.
21-SEP-2000; 2000US-0234687.
27-SEP-2000; 2000US-0236359.
04-OCT-2000; 2000GB-0024263.
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                                                                                                               Hanzel DK,
                                                                                                                                                   WPI; 2001-488899/53
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Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12 KSPCQRETP 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9 OSPCGREAP 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            epilepsy; cancer.
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30-JUN-2000;
03-AUG-2000;
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27-SEP-2000;
04-OCT-2000;
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                                                                                                                 Penn SG,
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                                                                                                                                                                                          Single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to a single exon nucleic acid probe for measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a peptide encoded by a single exon nucleic acid probe of the invention.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
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                                                                                                                                                                                                                                                                                                                                                                                                  Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human fetal liver
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 27; SEQ ID NO 26075; 639pp + sequence listing; English.
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cardiovascular disease; hypertension; cardiac arrhythmia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 36; DB 22; Length 17;
Pred. No. 44;
1; Mismatches 2; Indels
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                                                                                                                                                 26-MAY-2000; 2000US-0207456.
30-JUN-2000; 2000US-0608408.
03-AUG-2000; 2000US-0632366.
21-SEP-2000; 2000US-0234687.
27-SEP-2000; 2000US-0234687.
04-OCT-2000; 2000GB-0024263.
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; 2000US-0207456.
; 2000US-0608408.
; 2000US-0632366.
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                                                                                          30-JAN-2001; 2001WO-US00669
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Best Local Similarity 66.7
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9 QSPCGREAP 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17 AA;
                 WO200157277-A2.
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26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
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Seguence

ABB18899;

RESULT 14 ABB18899

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Gaps

WPI; 2001-483446/52.

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0;
                                                                                                                               The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human brain. They can be used to measure gene expression in brain cell samples, which may enable the diagnosis and improved treatment of nervous system diseases such as Alzheimer's disease, multiple sclerosis, schizophrenia, epilepsy and cancers. The present sequence is a protein encoded by one of the probes of the invention.
                   Single exon nucleic acid probes for analyzing gene expression in human brains -
                                                                                                                                                                                                                                                                                                                                                                0; Gaps
                                                                                            Example 4; SEQ ID NO: 26330; 650pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                         31.3%; Score 36; DB 22; Length 17; 66.7%; Pred. No. 44; 2; Indels
                                                                                                                                                                                                                                                                                                                       Query Match 31.38
Best Local Similarity 66.79
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                               12 KSPCQRETP 20
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9 QSPCGREAP 17
                                                                                                                                                                                                                                                                                      Sequence 17 AA;
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Search completed: December 4, 2002, 13:36:31 Job time : 37 secs

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(without alignments)
32.485 Million cell updates/sec
                                                                                                                   4, 2002, 13:37:30; Search time 11 Seconds
GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                  103943 seqs, 16242309 residues
                                                                                                                                                                                                US-09-754-004-2
115
1 YQTKVNLLSAIKSPCQRETPEG 22

    protein search, using sw model

                                                                                                                                                                                                                                                                                      BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 22
                                                                                                                     December
                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                          Perfect score:
                                                                             OM protein
                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                    Searched:
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1: /cgn2_6/ptcdata/1/pubpaa/US08_NEW_PUB.pep:*
2: /cgn2_6/ptcdata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptcdata/1/pubpaa/PCT_NEW_PUB.pep:*
4: /cgn2_6/ptcdata/1/pubpaa/US06_NEW_PUB.pep:*
5: /cgn2_6/ptcdata/1/pubpaa/US07_PUBCOMB.pep:*
7: /cgn2_6/ptcdata/1/pubpaa/US07_PUBCOMB.pep:*
7: /cgn2_6/ptcdata/1/pubpaa/US07_PUBCOMB.pep:*
8: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*
9: /cgn2_6/ptcdata/1/pubpaa/US09_PUBCOMB.pep:*
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14: /cgn2_6/ptcdata/1/pubpaa/US00_PUBCOMB.pep:*
14: /cgn2_6/ptcdata/1/pubpaa/US00_PUBCOMB.pep:*

Published_Applications_AA:*

Database :

Maximum Match 100% Listing first 45 summaries

Post-processing: Minimum Match 08

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Sequence 8, Appli Sequence 19, Appl Sequence 48162, A Sequence 47162, A	Sequence 15, Appl Sequence 15, Appl Sequence 62, Appl Sequence 15, Appl	Sequence 15, Appl Sequence 16, Appl Sequence 161, Appl Sequence 33971, A	Sequence 41239, A Sequence 185, App Sequence 73, Appl Sequence 7, Appl	208, 3, 4, 6, 4	Sequence 5, Appli Sequence 479, Appl Sequence 36, Appl
9 US-09-846-091-8 10 US-09-873-409-19 10 US-09-864-761-48162 10 US-09-864-761-47162	9 US-10-010-928-15 9 US-10-010-928-16 9 US-10-038-612-62 10 US-09-802-124-15	10 US-09-733-605-15 10 US-09-733-605-16 9 US-10-038-612-161 10 US-09-864-761-33971	10 US-09-864-761-41239 10 US-09-911-838-185 9 US-09-017-743C-73 10 US-09-364-597A-12 10 US-09-746-742-7	Б	5
17 17 18 19	00000	22002	22 7 9 9 1 1 2 9	13 13 13 13 13	13 15 16
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20 22 23	4522 4526 4526	30 31 32	3 3 3 4 4 8 3 4 4 4 4 4 4 4 4 4 4 4 4 4	888444 880010	1 4 4 4 1 6 4 5

ALIGNMENTS

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RESULT.

15. Sequence 2, Application US/0860272
16. Septembarian Maria Endomanna Maria Mar
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APPLICANT: Penn, Sharron G.
APPLICANT: Penn, Sharron G.
APPLICANT: Penn, David R.
APPLICANT: Penn, David R.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
FILE REFERENCE: Aeomica X-1
CURRENT APPLICATION NUMBER: US/09/864,761
CURRENT FILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US 60/180,312
PRIOR FILING DATE: 2000-02-04
PRIOR FILING DATE: 2000-02-04
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N: EXPRESSED IN HELLO, SIGNAL = 1.5
N: EXPRESSED IN FETAL LIVER, SIGNAL = 1.4
N: EXPRESSED IN HELA, SIGNAL = 1.1
N: EXPRESSED IN HELA, SIGNAL = 1.1
N: EXPRESSED IN BADUT LIVER, SIGNAL = 0.84
N: EXPRESSED IN BRAIN, SIGNAL = 1.4
N: EXPRESSED IN DRACENTA, SIGNAL = 1.7
N: EXPRESSED IN LUNG, SIGNAL = 1.7
N: EXPRESSED IN HEART, SIGNAL = 1.7
N: EXPRESSED IN HEART, SIGNAL = 1.7
N: EXPRESSED IN HEART, SIGNAL = 1.3
N: EST_HUMAN HIT: AU13661.1, EVALUE 9.00e-04
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Pred. No. 6.5;
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                                         PRIOR FFLLICATION NUMBER: PCLYOSOLYCOCCO
PRIOR APPLICATION NUMBER: PCTYUSOL/00667
PRIOR APPLICATION NUMBER: PCTYUSOL/00667
PRIOR APPLICATION NUMBER: PCTYUSOL/00664
PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR PLILING DATE: 2001-01-30
PRIOR PLILING DATE: 2001-01-30
PRIOR PLILING DATE: 2001-01-30
PRIOR PELLING DATE: 2001-01-30
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PRIOR PELLING DATE: 2001-01-30
PRIOR PLILING DATE: 2001-01-30
PRIOR PELLING DATE: 2001-01-30
PRIOR PLILING DATE: 2000-06-30
PRIOR PLILING DATE: 2000-06-30
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PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2000-06-30
PRIOR FI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: MAP TO AL049844.6 OTHER INFORMATION: EXPRESSED IN BONE
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66.7%;
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Best Local Similarity 66.7
Matches 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION:
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COTHER INFORMATION:
US-09-864-761-34197
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9 QSPCGREAP 17
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OTHER INFORMATION:
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PRIOR
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APPLICANT: Penn, Sharron G.

APPLICANT: Rank, David R.

APPLICANT: Hank, David R.

APPLICANT: Hansel, David R.

APPLICANT: Hansel, David R.

APPLICANT: Hansel, David R.

APPLICANT: Hansel, David R.

TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR

TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY

FILLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY

FILLE APPLICATION NUMBER: US 60/180,312

PRIOR PELLING DATE: 2000-02-04

PRIOR FILING DATE: 2000-05-26

PRIOR FILING DATE: 2000-06-06

PRIOR FILING DATE: 2000-08-03

PRIOR FILING DATE: 2000-10-04
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APPLICANT: Marin Maini
APPLICANT: Marin TILLON:
TILLE OF INVENTION: TNF Alpha Antagonists and Methotrexate
TITLE OF INVENTION: In the Treatment of TNF-Mediated Disease
FILE REFERENCE: 2891.1001-026
CURRENT APPLICATION NUMBER: US/09/754,004
CURRENT FILING DATE: 2001-01-03
PRIOR FILING DATE: 1996-02-08
PRIOR FILING DATE: 1996-02-26
PRIOR PLILNG DATE: 1996-02-26
PRIOR PLILNG DATE: 1994-03-10
PRIOR FILING DATE: 1994-03-10
PRIOR FILING DATE: 1994-03-10
PRIOR FILING DATE: 1994-03-10
PRIOR PLILNG DATE: 1994-03-10
PRIOR PLILNG DATE: 1994-03-10
PRIOR PLILNG DATE: 1994-03-10
PRIOR PLILNG DATE: 1993-10-06
PRIOR PLILNG DATE: 1993-10-06
PRIOR PRILNG DATE: 1992-10-06
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100.0%; Score 115; DB 10;
Best Local Similarity 100.0%; Pred. No. 1.9e-12;
Matches 22; Conservative 0; Mismatches 0;
                                                              DB 8;
1.9e-12;
nes 0;
                                                              100.0%; Score 115; D
Llarity 100.0%; Pred. No. 1.9
Conservative 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                   US-09-754-004-2; Sequence 2, Application US/09754004; Patent No. US-0020010180A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                         1 YQTKVNELSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 YQTKVNLLSAIKSPCQRETPEG 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Homo sapien
US-09-754-004-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS:
                                                                                                 Best Local Similarity
Matches 22; Conser
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US-09-864-761-34197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: For SEQ ID NO 2 LENGTH: 22
   US-08-602-272-2
                                                                     Query Match
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Gaps

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APPLICANT: Rank, David R.
APPLICANT: Rank, David R.
APPLICANT: Rank, David R.
APPLICANT: Rank, David R.
APPLICANT: Hancal, David R.
APPLICANT: Hancal, David R.
APPLICANT: Honel, David R.
APPLICANT: Honel, David R.
TITLE OF INVERTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FO INVERTION: HUMBER: USG 96/44/761
CURRENT APPLICATION NUMBER: USG 96/180,312
PRIOR PLILING DATE: 2000-06-33
PRIOR APPLICATION NUMBER: USG 96/236,359
PRIOR PLILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PET/USO1/00666
PRIOR APPLICATION NUMBER: PET/USO1/00666
PRIOR APPLICATION NUMBER: PET/USO1/00669
PRIOR PLILING DATE: 2001-01-30
PRIOR PLILING 
                                                                                                                                                                                                   Score 31; DB 10; Length 15;
Pred. No. 35;
                                                                                                                                                                                                                                                                      Indels
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SEQ ID NO 35348
LENGTH: 21
                                                                                                                                                                                                                                                            3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 35348, Application US/09864761
Patent No. US20020048763A1
                                                                                     ; TYPE: PRT
; ORGANISM: Peptide Binder of HPV E6
US-09-865-644-2
                                                                                                                                                                                                      27.0%;
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                      Query Match 27.0
Best Local Similarity 46.2
Matches 6; Conservative
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ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                         1 YQTKVNLLSAIKS 13
                           SEQ ID NO 2
LENGTH: 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ..
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OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 4.5
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 8.5
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 1.7
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 1.7
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 3.9
OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 2.4
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 9.3
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 9.3
OTHER INFORMATION: EXPRESSED IN EXPRESSED IN EVALUE 5.00e-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 33; DB 10; Length 19;
Pred. No. 22;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2000-06-30
PRIOR APPLICATION NUMBER: US 09/774,203
PRIOR FILING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 35911
LENGTH: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
               OR APPLICATION NUMBER: US 09/632,366
OR FILING DATE: 2000-08-03
OR APPLICATION NUMBER: US 00/32,366
OR FILING DATE: 2000-10-04
OR APPLICATION NUMBER: US 60/236,359
OR PILING DATE: 2000-10-30
OR PILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00667
OR FILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00667
OR FILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00669
OR FILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00669
OR FILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00665
OR FILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00665
OR FILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00665
OR FILING DATE: 2001-01-30
OR APPLICATION NUMBER: PCT/USO1/00663
OR APPLICATION NUMBER: PCT/USO1/00661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: PCT/US01/00670
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APPLICATION NUMBER: US 60/234,687
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28.7%;
50.0%;
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
5; Conserv?
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8 TPCSRRSSEG 17
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                           PRIOR
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PRIOR APPLICATION NUMBER: US 60/094,676
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                                                                                                                                                                                                                                                                                                         FEATURE:
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Batent No. US20020142303A1

GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: SCHIZOPHRENIA
FILE REFERENCE: 9195-061-999
CURRENT APPLICATION NUMBER: 08/09/791,378

CURRENT FILING DATE: 2001-02-23

PRIOR FILIANG DATE: 2000-12-28

NUMBER OF SEQ ID NOS: 677

SOFTWARE: PatentIn version 3.0
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N: MAP TO ACO08116.8

N: EXPRESSED IN BT474, SIGNAL = 2.7

N: EXPRESSED IN HETALL LIVER, SIGNAL = 2.3

N: EXPRESSED IN HEART, SIGNAL = 3.4

N: EXPRESSED IN LUNG, SIGNAL = 3.3

N: EXPRESSED IN BRAIN, SIGNAL = 3.1

N: EXPRESSED IN PLACENTA, SIGNAL = 3.4

N: EXPRESSED IN PLACENTA, SIGNAL = 3.6

N: EXPRESSED IN HELA, SIGNAL = 4.2

N: EXPRESSED IN HELA, SIGNAL = 4.2

N: EXPRESSED IN HELA, SIGNAL = 2.8

N: EXPRESSED IN BOUE MARROW, SIGNAL = 2.4

N: EXPRESSED IN BONE MARROW, SIGNAL = 2.4

N: EXPRESSED IN BONE MARROW, SIGNAL = 2.4

N: EXPRESSED IN BONE MARROW, SIGNAL = 2.4
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Pred. No. 52;
                                                                                                                                                                                                                                                                                                                                                1; Indels
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APPLICANT: Eckert, Deborah M.
APPLICANT: Chan, David C.
APPLICANT: Malashkevich, Vladimir
APPLICANT: Carr, Peter A.
APPLICANT: Kim, Peter S.
TITLE OF INVENTION: Inhibitors of HIV Membrane Fusion
FILE REFERENCE: 0399.1192-008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 29; DB 10;
Pred. No. 57;
                                                                                                                                                                                                                                                                                                                                                1; Mismatches
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CURRENT FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: PCT/US99/17351
PRIOR FILING DATE: 1999-07-30
PRIOR APPLICATION NUMBER: US 60/043,280
PRIOR FILING DATE: 1997-04-17
PRIOR FILING DATE: 1997-04-17
PRIOR FILING DATE: 1998-04-17
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                                                                                                                                                                                                                                                                                                      27.0%;
71.4%;
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; ORGANISM: Homo sapiens
US-09-791-378-27
                     OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
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2 VTDPCQADT 10
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                                                                                                                                                                                                                 OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                     13 SPCQRET 19
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11 APCQRAT 17
                                                                                                                                                                                                                                              ; OTHER INFORMALLE US-09-864-761-35348
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US-09-791-378-27
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LENGTH: 12
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APPLICANT: Chen, Wensheng
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FO
TITLE OF INVENTION: GENE EXPRESSION AMALYSIS BY MICROARRAY
FILE REFERENCE: Acomica-X-1
CURRENT APPLICATION NUMBER: US/09/864,761
CURRENT FILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US 60/180,312
PRIOR PILING DATE: 2000-02-04
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: US 60/207,456
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Pred. No. 91;
0; Mismatches 5; Indels
PRIOR FILING DATE: 1998-07-30
PRIOR APPLICATION NUMBER: US 60/100,265
PRIOR APLICATION NUMBER: US 60/101,058
PRIOR FILING DATE: 1998-09-14
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1998-05-03
NUMBER OF SEQ ID NOS: 68
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 18
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PRIOR APPLICATION NUMBER: US 09/632,366

PRIOR PLLING DATE: 2000-06-03

PRIOR PLLING DATE: 2000-01-03

PRIOR PELLING DATE: 2000-01-03

PRIOR PLLING DATE: 2000-01-03

PRIOR PLLING DATE: 2000-09-27

PRIOR PLLING DATE: 2001-01-30

PRIOR PLLING DATE: 2001-01-30
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APPLICATION NUMBER: PCT/US01/00670
FILING DATE: 2001-01-30
APPLICATION NUMBER: US 60/234,687
FILING DATE: 2000-09-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 48431, Application US/09864761
Patent No. USZ0020048763A1
GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTHER INFORMATION: D-peptide US-09-746-742-40
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Best Local Similarity 50.0
Matches 5; Conservative
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                                                                                                                                                                                                                                                                                                                    CTHER INFORMATION: EXPRESSED IN 4744, SIGNAL = 0.91
CTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 1
OTHER INFORMATION: EXPRESSED IN HBL100, SIGNAL = 0.94
OTHER INFORMATION: EXPRESSED IN HBLA, SIGNAL = 1
CTHER INFORMATION: EXT_HUMAN HIT: BE827799.1, EVALUE 2.00e-05
US-09-864-761-48431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 29; DB 10; Length 20;
Pred. No. 1e+02;
1; Mismatches 3; Indels
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Pred. No. 1e+02;
0; Mismatches 5; Indels
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APPLICANT: Eckert, Deborah M.
APPLICANT: Chan, David C.
APPLICANT: Chan, David C.
APPLICANT: Chan, David C.
APPLICANT: Carr, Peter A.
APPLICANT: Carr, Peter A.
APPLICANT: Kin, Peter S.
TITLE OF INVENTION: Inhibitors of HIV Membrane Fusion
FILE REFERENCE: 0399.1192-008
CURRENT APPLICATION NUMBER: US/09/746,742
CURRENT PRILING DATE: 1999-07-30
PRIOR FILING DATE: 1999-07-30
PRIOR FILING DATE: 1999-07-30
PRIOR FILING DATE: 1999-04-17
PRIOR APPLICATION NUMBER: US 60/04,576
PRIOR FILING DATE: 1998-07-30
PRIOR FILING DATE: 1998-09-14
SPROR FILING DATE: 1998-09-14
PRIOR FILING DATE: 1998-09-14
SPROR FILING DATE: 1998-09-14
PRIOR APPLICATION NUMBER: US 09/608,408
PRIOR FILING DATE: 2000-06-30
PRIOR PLING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SED ID NO 48431
LENGTH: 20
                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: MAP TO L78810.1
OTHER INFORMATION: EXPRESSED IN BTO
OTHER INFORMATION: EXPRESSED IN BOY
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Patent No. US20020077284A1
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25.2%;
50.0%;
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55.6%;
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Best Local Similarity 55.6
Matches 5; Conservative
                                                                                                                                                                                                                                                ORGANISM: Homo sapiens FEATURE:
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nes 5; Conserv
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Sequence 38964, Application US/09864761

Patent No. US20020048763A1

GENERAL INFORMATION:
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David K.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
FILE REFERENCE: Aeomica-X.1

CURRENT APPLICATION NUMBER: US 60/180,312
PRIOR APPLICATION NUMBER: US 60/180,312
PRIOR PELING DATE: 2000-05-24

PRIOR PELING DATE: 2000-05-26

PRIOR FILING DATE: 2000-05-26

PRIOR PELING DATE: 2000-05-26

PRIOR PELING DATE: US 60/207,456
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                                      GENERAL INFORMATION:
APPLICANT: Dalla-Favera, Riccardo
APPLICANT: Dila-Favera, Riccardo
APPLICANT: Niu, Hui-Feng
TITLE OF INVENTION: CLONING AND USES OF THE GENETIC
TITLE OF INVENTION: LOCUS bcl-6
NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/107,058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 28; DB 10;
Pred. No. 1.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0575/43771-A-PCT-US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Cooper & Dunham LLP
STREET: 1185 Avenue of the Americas
CITY: New York
STATE: New York
COUNTRY: United States of America
Sequence 10, Application US/09107058 Patent No. US20010010922A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: White, John P.
REGISTRATION NUMBER: 28,678
REFERENCE/DOCKET NUMBER: 0575,
TELEPHONE: (212) 278-0400
TELEPHONE: (212) 391-0525
TELEX: 422523 COOP UI
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; MOLECULE TYPE: protein US-09-107-058-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
--hag 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12 KSPCQRETP 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
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Gaps
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APPLICANT: Jakobovits, Aya
APPLICANT: Vang, Xiao-Dong
APPLICANT: Gallo, Michael
APPLICANT: Giallo, Michael
TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal
TITLE OF INVENTION: Growth Factor Receptor
TITLE OF INVENTION: 1910 CIP2
CURRENT APPLICATION NUMBER: US/09/187,693
CURRENT FILING DATE: 1998-09-29
PRIOR FILING DATE: 1998-09-29
                                                                                                                                                                                                                                      Score 27; DB 12; Length 19; Pred. No. 2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 27; DB 9; Length 21;
Pred. No. 2.3e+02;
                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Ben-Sasson, Shmuel A.
APPLICANT: Ben-Sasson, Shmuel A.
APPLICANT: Ben-Sasson, Shmuel A.
TITLE OF INVENTION: Short Peptides Which Selectively
TITLE OF INVENTION: Short Peptides Which Selectively
TITLE REFERENCE: 1242.1029-000 (CMCC-679)
CURRENT APPLICATION NUMBER: US,710/038,612
CURRENT FILING DATE: 2002-01-08
PRIOR APPLICATION NUMBER: US 09/161,094
PRIOR FILING DATE: 1998-09-25
NUMBER OF SEQ ID NOS: 172
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 73 LENGTH: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 08/851,362
PRIOR FILING DATE: 1997-05-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 42, Application US/10038612 Patent No. US20020160478A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 73, Application US/09187693 Patent No. US20020173629A1
                                                                                           ORGANISM: Artificial Sequence
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46.2%;
                                                                                                                                                                                                                                      23.5%;
nilarity 46.2%;
Conservative
                                                                                                                                                   ; OTHER INFORMATION: Synthetic US-10-012-030A-78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 23.5
Best Local Similarity 46.2
Matches 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Lyn
US-10-038-612-42
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                                                                                                                                                                                                                                                                                                                                                                                                        4 YMAKGSLLDFLKS 16
                                                                                                                                                                                                              Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
US-09-187-693-73
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        SEQ ID NO 78
LENGIH: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 42
LENGTH: 21
                                                                   TYPE: PRT
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                                      LENGIH:
                                                                                                                           FEATURE
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EXPRESSED IN HEART, SIGNAL = 2.9
EXPRESSED IN BONE MARROW, SIGNAL = 3
EXPRESSED IN ADULT LIVER, SIGNAL = 2.8
EXPRESSED IN BRAIN, SIGNAL = 2.8
EXPRESSED IN FETAL LIVER, SIGNAL = 2.6
EXPRESSED IN FETAL LIVER, SIGNAL = 2.6
EXPRESSED IN LIVER, SIGNAL = 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Indels
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APPLICANT: Ben-Sasson, Shmuel A.
TITLE OF INVENTION: TREATMENT OF PROSTATE CANCER BY
TITLE OF INVENTION: TREATMENT OF PROSTATE CANCER BY
TITLE OF INVENTION: INHIBITING LIN TYROSINE KINASE
FILE REFERENCE: BEN-SASSON-1B
CURRENT APPLICATION NUMBER: US/10/012,030A
CURRENT FILING DATE: 2001-12-11
PRIOR APPLICATION NUMBER: US 09/735,279
PRIOR FILING DATE: 2000-12-11
NUMBER OF SEO ID NOS: 83
: SOFTWANEE: FastSEQ for Windows, Version,4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1; Mismatches
PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: GB 24263.6
PRIOR PILING DATE: 2000-10-04
PRIOR PILING DATE: 2000-10-04
PRIOR PELICATION NUMBER: US 60/236,359
PRIOR PILING DATE: 2000-09-27
PRIOR PELING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PELICATION NUMBER: PCT/USO1/00669
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PELICATION NUMBER: PCT/USO1/00661
PRIOR PELING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/USO1/00670
PRIOR APPLICATION NUMBER: PCT/USO1/00670
PRIOR PELING DATE: 2001-01-30
PRIOR PELING DATE: 2001-01-30
PRIOR PELING DATE: 2001-01-30
PRIOR PELING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: US 60/234,687
PRIOR PELING DATE: 2000-09-21
PRIOR PELING DATE: 2000-09-20
PRIOR PELING DATE: 2000-09-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: MAP TO AC002099.1
OTHER INFORMATION: EXPRESSED IN PLACENT
OTHER INFORMATION: EXPRESSED IN HELA, S
OTHER INFORMATION: EXPRESSED IN HEARY,
OTHER INFORMATION: EXPRESSED IN BONE MA
OTHER INFORMATION: EXPRESSED IN BRIN,
OTHER INFORMATION: EXPRESSED IN BRIN,
OTHER INFORMATION: EXPRESSED IN BRIN,
OTHER INFORMATION: EXPRESSED IN FIRTAL INFORMATION: EXPRESSED IN LUNG, S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 5; Conserv
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LENGTH: 18
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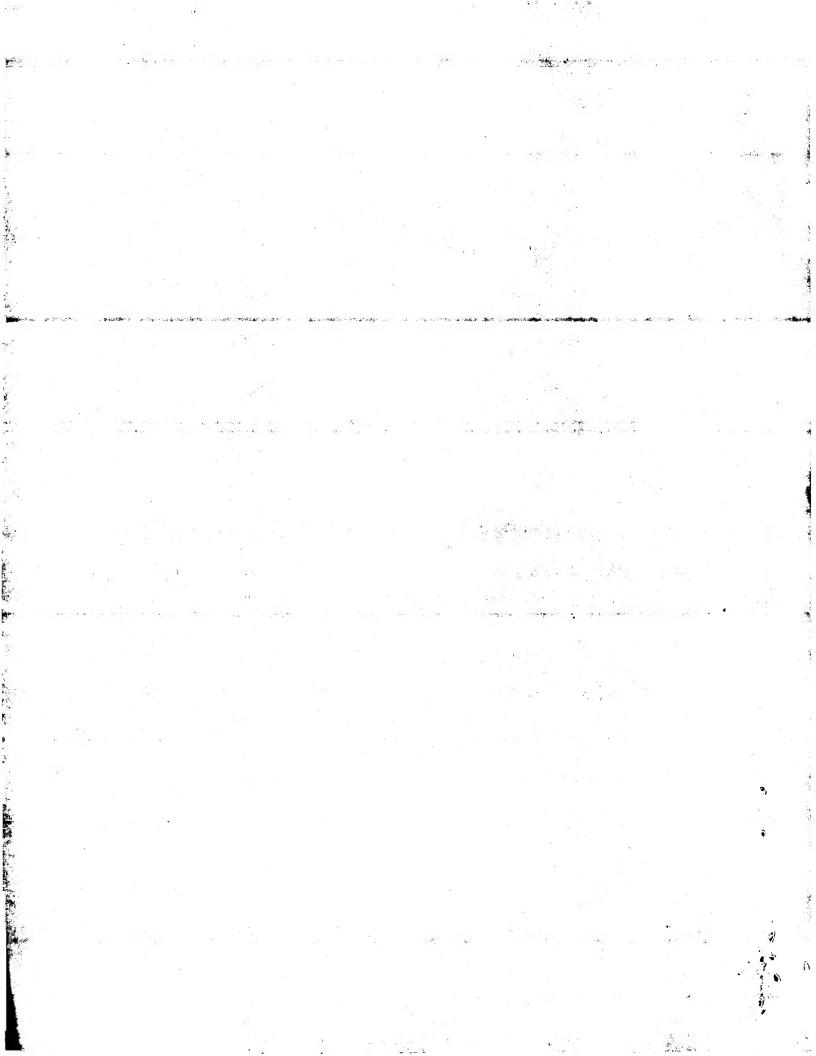
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US-09-187-693-73
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0; 0; Gaps Query Match 23.5%; Score 27; DB 9; Length 21; Best Local Similarity 57.1%; Pred. No. 2.3e+02; Matches 4; Conservative 1; Mismatches 2; Indels

13 SPCORET 19 :|| | | 13 APCSRST 19 ογ

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Search completed: December 4, 2002, 13:41:06 Job time: 12 secs



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FILING DATE: 01-AUG-1996
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB93/02070
FILING DATE: 06-OCT-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/958,248
FILING DATE: 08-OCT-1993
APPLICATION NUMBER: US 07/958,248
FILING DATE: 08-OCT-1993
APPLICATION NUMBER: US 07/958,248
FILING DATE: 08-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Brook Esg., David E.
REGISTRATION NUMBER: 22,592
REFERENCE/DOCKET NUMBER: KIR92-01A4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION TELEPHONE: (617) 861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (617) 861-6240
TELEFAX: (617) 861-9540
INPORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 22 amino acids
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25, Appl
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                                                                                                                                                     (without alignments)
46.236 Million cell updates/sec
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                                                                                                                              4, 2002, 13:35:55; Search time 14 Seconds
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/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
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/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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US-08-107-235-16
US-08-714-960B-16
US-09-598-784-16
US-08-107-235-14
US-08-107-235-14
US-08-107-235-11
US-08-114-960B-11
US-08-114-960B-11
US-08-114-960B-11
US-09-598-784-11
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US-08-414-174-6
US-09-009-953-176
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-08-824-405-19
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Maximum Match 100%
Listing first 45 summaries
                                                                                       OM protein - protein search, using sw model
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1 YQTKVNLLSAIKSPCQRETPEG
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                        US-09-754-004-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum DB seq length: 0 Maximum DB seq length: 22
                                                                                                                                December
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                                                                                                                                                                                                                                                                      Sequence:
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Sequence 13, Appl
Patent No. 5164481
Sequence 239, App
Sequence 5, Appli
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Appl
App
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                                                                                                                                                                                                                         Sequence 239,
Sequence 239,
Patent No. 516
                                                            Sequence
           Sequence
                                     Seguence
US-08-815-530-10
US-08-52-037-97
US-08-851-089-7
US-08-834-130A-13
US-08-834-130A-13
154-81-11
US-08-637-759B-239
US-08-871-355A-239
US-09-201-945-239
516-481-13
US-09-201-945-239
US-09-201-945-239
US-08-103-742-34
US-08-103-742-34
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US-09-115-737-104
US-08-836-075A-190
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US-08-465-325-104
           228
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ALIGNMENTS

Sequence 2, Application US/08690775
Patent No. 6270766
GENERAL INFORMATION:
APPLICANT: Feldmann, Marc
APPLICANT: Mainl, Ravinder N.
TITLE OF INVENTION: THE TREATMENT OF AUTOIMMUNE DISEASE
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: HAMILTON, BROOK, SMITH & REYNOLDS, P.C. STREET: HAMILTON, BROOK, SMITH & REYNOLDS, P.C. STREET: TWO MILITIA DRIVE CITY: LEXINGTON STATE: MASSACUTORS SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/690,775 MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS MASSACHUSETTS: USA COMPUTER READABLE FORM:

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68.7%; Score 79; DB 3; Length 16; 100.0%; Pred. No. 5.4e-07; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: RATHJEN, Deborah A
TILLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                         APPLICANT: RATHJEN, Deborah A
APPLICANT: FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: 1BM compatible PC/MS-DOS
SOFTWARE: WordPerfect version 6.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ICCATION: 1..16
CTHER INFORMATION: /note= "PEPTIDE 303 (94-109)"
US-08-714-9608-5
                                                                                                                                               E: BANNER & WITCOFF, LTD.
10 S. Wacker Drive, Suite 3000
                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/714,960B FILING DATE: 17-SEP-1996 CLASSIFICATION: 514 PRIOR APPLICATION DATA: APPLICATION NUMBER: AU PJ9065 FILING DATE: 12-MAR-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 12 WAR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,415
FILING DATE: 09-NOV-1992
PRIOR APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: Resis, Robert H.
REGISTATION NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 92,622-B
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       UMBER: PCT/AU91/00086
12-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/09598784 Patent No. 6375928 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (312) 715-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (312) 715-1234
INFORMATION FOR SEQ ID NO: 5
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SS: single
not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 68.7
Best Local Similarity 100.
Matches 15; Conservative
                                                                                  TITLE OF INVENTION: NEW NUMBER OF SEQUENCES: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: not relevan
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                          STREET: 10 5. ...
CITY: Chicago
STATE: Illinois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                      90909
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                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 4
US-09-598-784-5
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                                                                                                                                Gaps
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                                                                                  Length 22;
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                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Rathjen, Deborah A
APPLICANT: Ferrante, Antonio
APPLICANT: Widner, Fred
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 6606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPOTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/107,235
FLING DATE: 16-AUG-1993
CLASSITCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,415
FLING DATE: 12-MAR-1991
ATYONEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LOCATION: 1.16
OTHER INFORMATION: /note= "PEPTIDE 303 (94-109)"
US-08-107-235-5
                                                                                  100.0%; Score 115; DB 4;
100.0%; Pred. No. 6.8e-13;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Allegretti & Witcoff, Ltd. STREET: 10 S. Wacker Dr. CITY: Chicago STATE: Illinois COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 3
US-08-714-960b-5
; Sequence 5, Application US/08714960B
                                                                                                                                                                                                                                                                                             US-08-107-235-5; Sequence 5, Application US/08107235; Patent No. 5587457
                                                                                                                                                                                           1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: McDonnell, John J
REGISTRATION NUMBER: 26,949
                                                                                                                                                                   1 YQTKVNLLSAIKSPCQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-715-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 312-715-1234 INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER:
                                                                                  Query Match 100.(
Best Local Similarity 100.(
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
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Best Local Similarity 100.
Matches 15; Conservative
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-690-775-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide
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Sequence 10, Application US/08377781A
Sequence 10, Application US/08377781A
Patent No. 6107273.
GENERAL INFORMATION:
APPLICANT: Jameson, Bradford A.
APPLICANT: No. 6107273, Mariadele
TITLE OF INVENTION: Tunor Necrosis Factor Inhibitors
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSE: Moodcock Washburn Kurtz Mackiewicz & No. 6107273ris
STREET: One Liberty Place 46th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 67; DB 1; Length 16;
Pred. No. 5.6e-05;
0; Mismatches 1; Indels
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COUNTRY: United States of America
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: FlOPPY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/377,781A
                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin. Release #1.24
CURENT APPLICATION DATA:
APPLICATION NUMBER: US/08/178,268
FILING DATE: 05-JAN-1994
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: MITCHARD, Leonard C
REGISTATION NUMBER: 29,009
REFERENCE/DOCKET NUMBER: 47-45
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TJU-1441
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ATTORNEY/AGENT INPORMATION:
NAME: DeLuca, Mark
REGISTRATION NUMBER: 33,229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: TJ
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-568-3100
TELEFAX: 215-568-3439
                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (703) 816-4000 TELEFAX: (703) 816-4100 INFORMATION FOR SEQ ID NO: 39: SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              58.3%;
93.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 58.3
Best Local Similarity 93.3
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: amino acid
STRANDEDNESS: single
; TOPOLOGY: both
MOLECULE TYPE: peptide
US-08-178-268-39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 LSAIKSPCORETPEG 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-377-781A-10
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Patent No. 5795859
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL STRIGG, Geoffrey W
APPLICANT:
MACK, Philip O
TITLE OF INVENTION:
POPLICAN:
APPLICANT:
MACK, Philip O
TITLE OF SEQUENCES:
APPLICANT:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Nixon & Vanderhye P.C.
STREET: 1100 No. 5795859th Glebe Road; 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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                                                                    STATE: Illinois
COMPUTER READABLE FORM:
MEDIUM TYPE: 144 MD storage diskette, 3.50 inch
COMPUTER READABLE FORM:
MEDIUM TYPE: 144 MD storage diskette, 3.50 inch
COMPUTER: IBM PC compatible PC/MS-DOS
SOFTWARE: WordPerfect version 6.1
CURRENT APPLICATION NDATA:
APPLICATION NDATA: 2000
CLASSIFICATION NUMBER: US/09/598,784
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: PCT/AU91/00086
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: US 07/930,415
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: US 08/107,235
FILING DATE: 11-AQC-1993
APPLICATION NUMBER: US 08/114,960
ATTORNEY/AGENT INFORMATION:
NAME: REGISTRATION NUMBER: 13,168
ATTORNEY/AGENT INFORMATION:
NAME: REGISTRATION NUMBER: 31,168
ATTORNEY/AGENT INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION
TELECOMMUNICATION INFORMATION:
TELECOMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             68.7%; Score 79; DB 4; Length 16; 100.0%; Pred. No. 5.4e-07; ive 0; Mismatches 0; Indels
ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: single
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 68.7
Best Local Similarity 100.
Matches 15; Conservative
                                                 CITY: Chicago
STATE: Illinois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 LSAIKSPCQRETPEG 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Virginia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-178-268-39
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                                                                                                   Score 41; DB 3; Length 14;
Pred. No. 1.1;
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                                                                                                                                          1; Indels
                                                                                                                                                                                                                                                                                                                                   APPLICANT: Rathjen, Deborah A
APPLICANT: Farrante, Antonio
APPLICANT: Widner, Fred
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATUG SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/107,235
FILING DATE: 16-AUG-1993
CLASSIFICATION: 530
PRIOR APPLICATION NUMBER: US 07/930,415
FILING DATE: 12-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , LOCATION: 1..11
; OTHER INFORMATION: /note= "PEPTIDE 396 (84-94)"
US-08-107-235-16
                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 10 S. Wacker Dr. CITY: Chicago STATE: Illinois COUNTY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92,622A
                                                                                                                                                                                                                                                                    US-08-107-235-16; Application US/08107235; Patent No. 5587457; Patent No. 5587457;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: MCDONDELL, JOHN J
REGISTRATION NUMBER: 26,949
REFREENCE/POCKET NUMBER: 92,6
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-715-1000
TELEFAX: 312-715-1234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 16: SEQUENCE CHARACTERISTICS:
                                                                                                     35.7%;
87.5%;
LENGTH: 14 amino acids TYPE: amino acid
                                                                                                     Query Match 35.7
Best Local Similarity 87.5
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.1
Matches 8; Conservative
                               TOPOLOGY: both
MOLECULE TYPE: peptide
US-08-377-781A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Peptide LOCATION: 1 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                      15 CQRETPEG 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 YQTKVNLL 11
                                                                                                                                                                                         1 YQTKVNLL 8
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RESULT 8

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Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
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Patent No. 6375928
GENERAL INPORMATION:
APPLICANT: RATHLEN, Deborah A
FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
Sequence 16, Application US/08714960B
Patent No. 6121237
GENERAL INFORMATION:
APPLICANT: RATHJEN, Deborah A
APPLICANT: FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
COMPUTER: 1EM PC compatible
COMPUTER: 1EM PC compatible
OPERATING SYSTEM: 1BM compatible PC/MS-DOS
SOFTWARE: WordPerfect version 6.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/714,960B
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; LOCATION: 1.11
; OTHER INFORMATION: /note= "PEPTIDE 396 (84-94)"
US-08-714-960B-16
                                                                                                                                                                                                              ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
CITY: Chicago
STATE: Illinois
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU PU9065
FILING DATE: 12-MAR-1990
PRIOR APPLICATION NUMBER: PCT_AU91/00086
FILING DATE: 12-MAR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,415
FILING DATE: 09-NOV-1992
PROOR APPLICATION DATA:
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-MG-1993
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-MG-1993
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-MG-1993
APPLICATION NUMBER: US 08/107,235
FILING DATE: NEOFETH H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Resis, Robert H.
REGISTRATION NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 92,622-B
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 715-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (312) 715-1000
TELEFAX: (312) 715-1234
INFORMATION FOR SEQ ID NO: 16: SEGUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SS: single
not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 34.8
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 YQTKVNLL 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YQTKVNLL 8
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DB 1; Length 14;
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Patent No. 6121237
GENERAL INFORMATION:
APPLICANT: RAHJEN, Deborah A
APPLICANT: FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTR:
ZIP: 60606
COMPOTER READABLE FORM:
MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
COMPUTER: IBM PC compatible
COMPOTER: IBM PC compatible PC/MS-DOS
SOFTWARE: WordPerfect version 6.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; LOCATION: 1.14
; OTHER INFORMATION: /note= "PEPTIDE 394 (81-94)"
US-08-107-235-14
                                                                         SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/107,235
FILING DATE: 16-AUG-1993
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34.8%; Score 40; DB 100.0%; Pred. No. 1.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
CITY: Chicago
STATE: Illinois
COUNTRY: USA
                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,415
FILING DATE: 12-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: MCDONNell, John J
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 92,622A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU PJ9065
FILING DATE: 12-MAR-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU91/00086
FILING DATE: 12-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/08/714,960B
FILING DATE: 17-SEP-1996
CLASSIFICATION: 514
                                                                    PC-DOS/MS-DOS
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-715-1000
TELEPAX: 312-715-1234
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-714-960B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
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                                                                                COUNTRY: USA
ZIP: 60606
COMPUTER READBLE FORM:
MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
COMPUTER: IBM FC compatible
OPERATING SYSTEM: IBM compatible PC/MS-DOS
SOFTWARE: WordPerfect version 6.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: /note= "PEPTIDE 396 (84-94)"
SEQUENCE DESCRIPTION: SEQ ID NO: 16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             34.8%; Score 40; DB 4; Length 11;
100.0%; Pred. No. 1.3;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 14, Application US/08107235
Patent No. 5587457
GENERAL INFORMATION:
APPLICANT: Rathjen, Deborah A
APPLICANT: Ferrante, Antonio
TILLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES:
NUMBER OF SEQUENCES:
ADDRESSEE: Allegretti & Witcoff, Ltd.
STREE: 10 S. Wacker Dr.
CITY: Chicago
STATE: Illinois
  ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
                                                                                                                                                                                                                                                          PRICATION NUMBER: US/09/598,784
ETLING DATE: 21-Jun-2000
CLASSIFICATION - CUNKNOWN-
PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU PJ9065
FILING DATE: 12-MAR-1990
APPLICATION NUMBER: PCT/AU91/00086
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: US 07/930,415
FILING DATE: 09-NOV-1992
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-AUG-1993
APPLICATION NUMBER: US 08/114,960
FILING DATE: 17-SEP-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAMÉ: Resis, Robert H.
REGISTRATION NUMBER: 32,168
REFERRUCE/DOCKET NUMBER: 11341.00001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 715-1000
TELEFAX: (312) 715-1234
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: single
TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: 1..11
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
                                         CITY: Chicago
STATE: Illinois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 8; Conserv
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OTHER INFORMATION: /note= "PEPTIDE 394 (81-94)"
SEQUENCE DESCRIPTION: SEQ ID NO: 14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
34.8%; Score 40; DB 4; Length 14;
Best Local Similarity 100.0%; Pred. No. 1.7;
Matches 8; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/107,235
FILING DATE: 16-AUG.1993
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,415
FILING DATE: 12-MAR-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Rathjen, Deborah A
APPLICANT: Rathjen, Antonio
APPLICANT: Widmer, Fred
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSEE: Allegretti & Witcoff, Ltd.
STREET: 10 S. Wacker Dr.
        REGISTRATION NUMBER: 32,168
REFERRANCE/DOCKET UNDBER: 11341.00001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 715-1000
TELEFAX: (312) 715-1234
INFORMATION FOR SEQ ID NO: 14: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: McDonnell, John J
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 92,622A
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-715-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 11, Application US/08107235 Patent No. 5587457
                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: not relevant
                                                                                                                                                                                                LENGTH: 14 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 312-715-1234 INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 22 amino TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Chicago
STATE: Illinois
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 YQTKVNLL 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 YQTKVNLL 8
                                                                                                                                                                                                                                                                                                                                    FEATURE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-598-784-14
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US-08-107-235-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match
34.8%; Score 40; DB 3; Length 14;
Best Local Similarity 100.0%; Pred. No. 1.7;
Matches 8; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch COMPUTER: TBM PC compatible OPERATING SYSTEM: IBM compatible PC/MS-DOS SOFTWARE: WordPerfect version 6.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FERRANTE ARTONIO
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; NAME/KEY: Peptide
; LOCATION: 1..14
; OTHER INFORMATION: /note= "PEPTIDE 394 (81-94)"
US-08-714-960B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: BANNER & WITCOFF, LTD.
STREET: 10 S. Wacker Drive, Suite 3000
CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/598,784
FILING DATE: 21-Jun-2000
CLASSIFICATION NUMBER: NO/09/698,784
FILING DATE: 11-MAR-1991
APPLICATION NUMBER: NO P9065
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: US/07/930,415
FILING DATE: 12-MAR-1991
APPLICATION NUMBER: US/07/930,415
FILING DATE: 09-NOV-1992
APPLICATION NUMBER: US/08/107,235
FILING DATE: 16-MG-1993
APPLICATION NUMBER: US/08/114,960
APPLICATION NUMBER: US/08/114,960
  PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/930,415
FILING DATE: 09-NOV-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-AGG-1993
ATTORNEY/AGENT INFORMATION:
NAME: Resis, Robert H.
REGISTRATION NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 92,622-B
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 715-1000
TELEFAX: (312) 715-1000
TELEPHONE: (312) 715-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 14, Application US/09598784
Patent No. 6375928
GENERAL INFORMATION:
APPLICANT: RATHJEN, Deborah A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Resis, Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: Illinois
COUNTRY: USA
PRIOR APPLICATION DATA:
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US-09-598-784-14
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Search completed: December 4, 2002, 13:38:07
Job time: 15 secs
        CORRESPONDENCE ADDRESS:
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APPLICANT: RATHEDN, LEDOKAIN A
APPLICANT: GRIGG, Geoffrey W
APPLICANT: MAINTON: Peptide which Abrogates TNF and/or LPS Toxicity
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSEE: Nixon & Vanderhye P.C.
STREET: 1100 No. 5795859th Glebe Road, 8th Floor
CITY: Arlington
STREET: 1100 No. 5795859th Glebe Road, 8th Floor
CITY: Arlington
STREET: USA
COMPUTER: READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: BARCHIN Release #1.24
COMPUTER: PatentIn Release #1.24
CURRENT APPLICATION NUMBER: US/08/178,268
FILLING DATE: OS-05M-1994
FILLING DATE: OS-05M-1994
FILLING DATE: OS-05M-1994
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                                                                34.8%; Score 40; DB 1; Length 22; 100.0%; Pred. No. 2.8; tive 0; Mismatches 0; Indels
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Pred. No. 2.8;
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Patent No. 6121237
GENERAL INFORMATION:
GAPLICANT: RATHJEN, Deborah A
APPLICANT: FERRANTE, Antonio
TITLE OF INVENTION: Neutrophil Stimulating Peptides
NUMBER OF SEQUENCES: 19
; OTHER INFORMATION: /note= "PEPTIDE 309 (73-94)" US-08-107-235-11
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100.0%; Pred. No. 2...
0; Mismatches
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NAME: MITCHARD, Leonard C
REGISTRATION NUMBER: 29,009
REFERENCE/DOCKET NUMBER: 47-45
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 816-4100
INFORMATION FOR SEQ ID NO: 45:
SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                          Sequence 45, Application US/08178268
Patent No. 5795859
GENERAL INFORMATION:
APPLICANT: RATHGEN, Deborah A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100...
                                          Query Match
Best Local Similarity 100..
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MOLECULE TYPE: peptide
US-08-178-268-45
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                                                                                                                                                 1 YOTKVNLL 8
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US-08-178-268-45
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Gaps
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                                                                                                                                                                                                                   COMPUTER READBLE FORM:

MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
COMPUTER: IBM PC compatible
OPERATING SYSTEM: IBM compatible PC/MS-DOS
SOFTWARE: WordPerfect version 6.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/714,960B
FILING DATE: 17-SEP-1996
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU P19065
FILING DATE: 12-MAR-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU91/00086
FILING DATE: 12-MAR-1991
PRIOR APPLICATION NUMBER: US 07/930,415
FILING DATE: 12-MAR-1991
PRIOR APPLICATION NUMBER: US 08/107,235
FILING DATE: 16-MG-1993
ATTORNEY/AGENT INFORMATION:
NUMBER: RESIS, ROBERT 43,168
REFERENCE/DOCKET NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 32,168
REFERENCE/DOCKET NUMBER: 31,168
REFERENCE/DOCKET NUMBER: 32,168
TELEOMONICATION INFORMATION:
TELEPHONE: (312) 715-1234
INFORMATION FOR SEQ. ID NO: 11:
SEQUENCE CHARACTERISTICS:
ILENGTH: 22 mmino acids
TYPE: amino acids
TYPE
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; OTHER INFORMATION: /note= "PEPTIDE 309 (73-94)"
US-08-714-9608-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 34.8%; Score 40; DB 3; Best Local Similarity 100.0%; Pred. No. 2.8; Matches 8; Conservative 0; Mismatches
E: BANNER & WITCOFF, LTD.
10 S. Wacker Drive, Suite 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide FEATURE:
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                                   STREET: 10 S. Wac
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60606
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